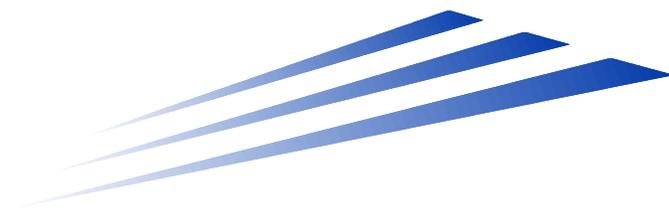


# KENTUCKY TRANSPORTATION CENTER

*College of Engineering*

**STATE ROAD FUND REVENUE COLLECTION PROCESSES:  
DIFFERENCES AND OPPORTUNITIES OF IMPROVED EFFICIENCY**



UNIVERSITY OF KENTUCKY



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## KENTUCKY TRANSPORTATION CENTER

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## **EXECUTIVE SUMMARY**

Kentucky, like other states, faces financial challenges and fiscal constraints in the provision of the public services demanded by its citizens. One danger of constrained fiscal resources is the tendency to shift funds from long-term capital investments to current operating priorities and, as a result, defer investment in the infrastructure required to support long-term growth and development. The Kentucky road fund was established as protection against this tendency by providing earmarked resources to support the states commitment to the construction and maintenance of a sound transportation system. While the structure of a state's road fund revenue and tax structure is key to insuring a stable and adequate revenue base, the road fund assessment, collection, audit and enforcement processes are also important in insuring the efficient and effective accumulation of needed road fund revenue.

Previous research regarding the administration and collection of road fund revenues has focused on gaining an understanding of the motivations for tax evasion, methods of evasion, and estimates of the magnitude of evasion for individual states. To our knowledge, little attention has been focused on the impact road fund collection, assessment, audit, and enforcement processes have on tax evasion. The purpose of this study is to review the current road fund assessment, collection, audit, and enforcement processes and procedures and to develop recommendations to improve the efficiency and effectiveness of the process.

### **Road Fund Revenue Sources**

The federalism system in this country allows each state to develop their unique system for road fund revenue collection. As a result, the structure of a state's road fund

may differ from others in response to the unique characteristics of the industry in their state and the different views of its citizens regarding fair and equitable tax and revenue policy. However, competitive pressures between states tend to minimize the revenue and tax base differences. As a result, there is significant commonality among the states regarding road fund revenue sources even though relative dependence on the eight major road fund revenue types varies considerably from state to state.

### **Road Fund Revenue Collection Process**

Road fund revenue collection processes also vary by state. This study reviewed state road fund collection and distribution systems, mapped each state's system and summarized the states systems by U.S. Census region. The data sources of this "mapping" were the legislative acts for each individual state. State legislative acts not only determine what tax/fee sources are used by each state, but also determine the allocation of these revenues. In the collection and distribution mapping effort, we gave additional consideration to two groupings of which are of special interest to the Commonwealth. These two "maps" include the Regional Processing Center states, a consortium of states based on the International Fuel Tax Agreement (IFTA) legislation, and on a comparison of Kentucky to its border states of Illinois, Indiana, Missouri, Ohio, Tennessee, Virginia, and West Virginia.

### **Kentucky and the Eight Revenue Sources**

Although highway/road/transportation fund sources vary across the United States, there are essentially eight revenue sources reported to FHWA from which states finance highway infrastructure. Broadly, these are fee receipts, fuel tax receipts, other imposts and general funds, miscellaneous income, bond proceeds, federal government subsidies

and local government revenues. Each state relies on these eight sources to varying degrees.

Kentucky relies heavily on fee receipts which includes a number of fees, predominately the Special Title Fee, for its source of income: 41% of its income derives from this source, which ranks among the highest out of all other states. The Special Title Fee is used by only eleven states. This fee source includes a myriad of fees and tax sources. In Kentucky this category is the Usage Tax on motor vehicles; in Michigan this category is the Commemorative Plates Fee; in New Jersey this category is a Corrections Fee; in New Mexico this category is the Motor Vehicle Excise Tax; in Oklahoma this category is Title Lien Fees; in South Carolina this category is the Certificate of Compliance Fee; in Texas this category is the Motor Vehicle Sales Tax; in Vermont this category is the Purchase and Use Tax; in Virginia this category is the Sales and Use Tax; in Washington this category is an Application Fee; and in West Virginia this category is the Certificate of Title Tax.

Miscellaneous receipts are the second greatest contributor in Kentucky's fee revenues, at 15%, while the mile tax and ton-mile tax ranks third for the state, at 11%. This last tax is used by only five other states: Arizona (29%), Idaho (33%), New Mexico (23%), New York (18%) and Oregon (57%). It is interesting to note that while many states obtain a substantial amount of their revenue from vehicle registration (28% auto, 23% trucks), Kentucky derives only three percent of its fee income from automobile registration and four percent from truck registration.

The second greatest source of revenue for the Commonwealth is fuel taxation, which comprises 31% of Kentucky's revenue and is slightly below the average for the

nation. The federal government provides 20% of Kentucky's road funding, which is slightly below the national average of 27%. The majority of the states that border Kentucky rely more heavily on federal government funding than does the Commonwealth. Ohio and Virginia are the only exceptions. Kentucky receives negligible amounts of income from tolls, other imposts and general funds, bond proceeds and general funds. This is generally consistent with averages for the nation.

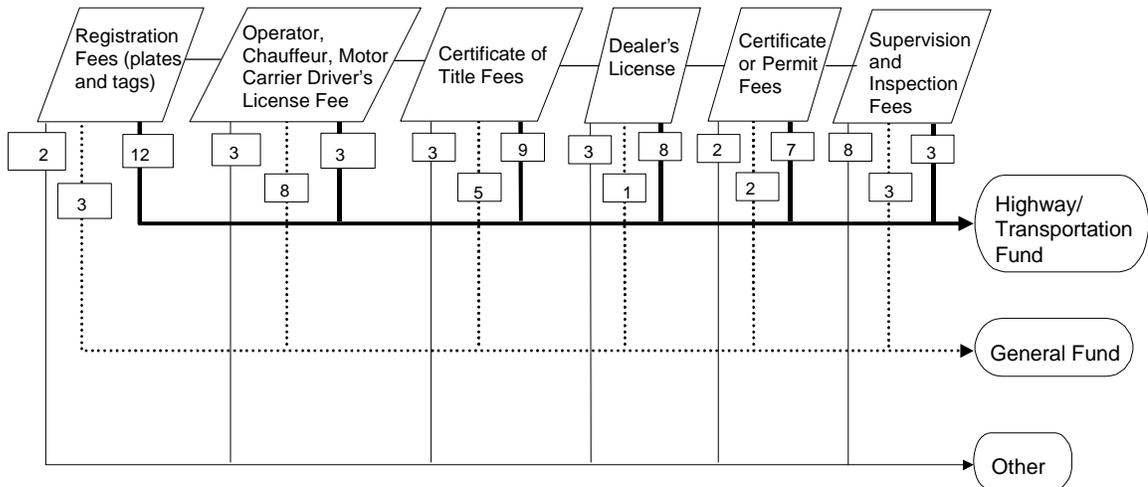
For fuel taxation, Kentucky is very close to national averages. The Commonwealth receives 79% of its fuel tax revenue from gasoline taxes and 21% from diesel taxes. States that boarder Kentucky deviate only slightly from the 80/20 ratio.

### **Collection System and Sources by U.S. Region**

Although the Commonwealth differs only slightly from national averages in many revenue source categories, regional difference may be observed. Regional differences have a greater impact on the Commonwealth, due to the physical mobility of taxpayers. Thus, the Southern Region was "mapped" as a comparison.

The Southern Region consists of sixteen states and the District of Columbia. The states in this region are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Of these sixteen states and the District of Columbia at least eleven use the six common motor vehicles taxes and fees listed in Diagram 3. The diagram indicates that only two of the seven fees and taxes, registration fees and certificate of title fees, are used by all sixteen states and the District of Columbia.

**Diagram 3: Southern Region Common Motor Vehicle Fees and Taxes**

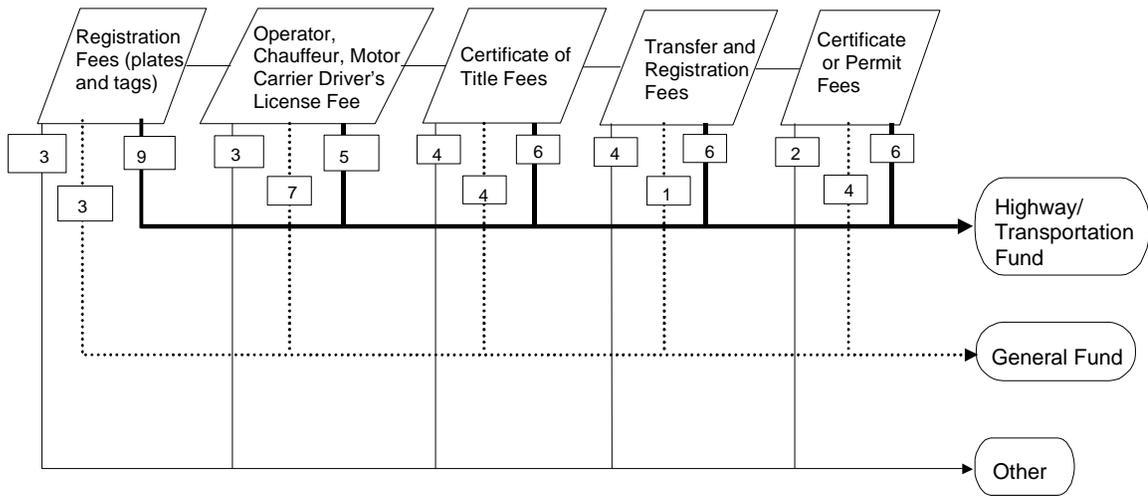


The diagram and the detailed narrative in Appendix B illustrate the diversity of this group of states. For example, five of the six common fees and taxes are used by the State of Georgia. All proceeds from these five sources are allocated to the general fund. This occurrence is similar for the District of Columbia. All six fees and taxes used by the District are allocated to the general fund. This is in sharp contrast to the states of Delaware, North Carolina, and West Virginia who allocate all common fees and taxes collected to the highway/transportation fund.

**Collection System and Sources of the Regional Processing Center States**

The Regional Processing Center (RPC) is a consortium of states that organized to reduce administrative costs associated with the International Fuel Tax Agreement (IFTA) legislation. The members of the RPC include the states of California, Connecticut, Delaware, Georgia, Kentucky, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, Pennsylvania, Rhode Island, and Texas. The RPC is a unique group of states representing all four U.S. Census Bureau regions.

**Diagram 5: Regional Processing Center (RPC) Common Motor Vehicle Fees and Taxes**

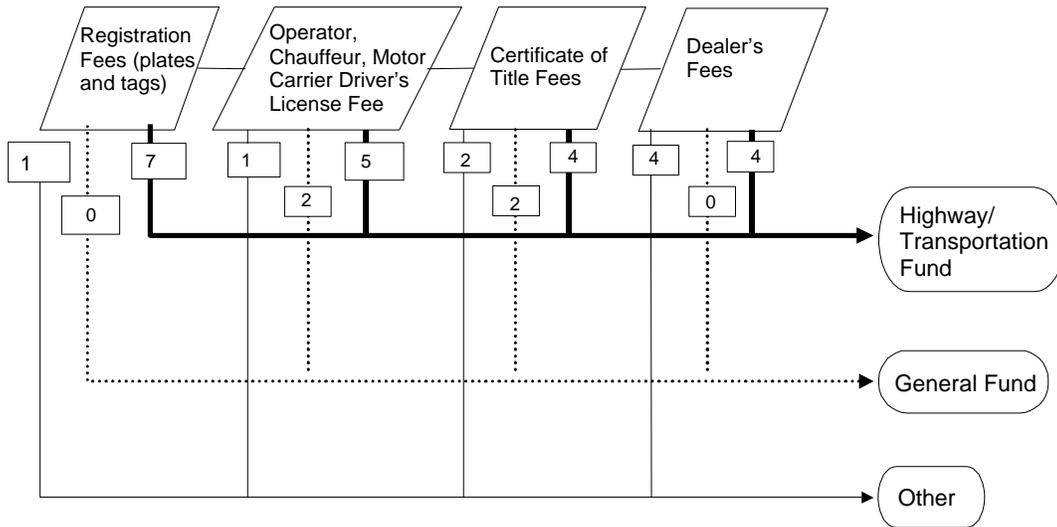


Of the fifteen states that comprise the RPC, at least eleven use the five common motor vehicles taxes and fees listed in Diagram 5. The diagram indicates that only two of the five fees and taxes, registration fees and operator, chauffeur, motor carrier driver's license fee, are used by all fifteen states in the RPC. To provide an analysis of the two common sources used by these fifteen states, registration fees and operator, chauffeur, motor carrier driver's license fees are listed by individual state.

### **Collection System and Sources of Kentucky's Border States**

There are seven states that border the Commonwealth of Kentucky. These states include Illinois, Indiana, Missouri, Ohio, Tennessee, Virginia, and West Virginia. These border states may provide a better look at conformity within road fund administration. Of these eight states, at least six use the four common motor vehicles taxes and fees listed in Diagram 6. The diagram indicates that all four of the and taxes; Registration Fees, Operator, Chauffeur, Motor Carrier Driver's License Fee, Certificate of Title Fees, and Dealer's Fees, are used by all eight states.

**Diagram 6: Kentucky's Border States Common Motor Vehicle Fees and Taxes**



The diagram and the detailed narrative in Appendix B illustrate the diversity of the border states. For example, all proceeds from these four sources are allocated to the highway/transportation fund in the states of Missouri and West Virginia. This is in sharp contrast to the state of Ohio who allocates three of these four common fees and taxes collected to the “other” fund.

The unique aspect of road fund collections in the states has provided little evidence of conformity amongst the states. Across all states, fuel taxation leads income-generating sources at 34%, federal government funding follows at 27%, and fees receipts rank third at 22%. We have attempted to find uniformity in the collection process within the states by assessing these FHWA categories of road fund collections. We broke down the states into regions, the RPC, and Kentucky’s border states, finding little evidence of conformity within these state groupings. This finding was consistent with our federalist system. Our system allows each state to assess and collect taxes and fees according to its own particular circumstances and objectives. Although little conformity was found in the

major FHWA categories, conformity, although limited, was found when the general category entitled fee receipts was broken down.

Fee receipts nationally rank third (avg. = 22%) as a source of total road fund revenue; however, Kentucky is more heavily reliant on this source. In Kentucky, approximately 41% of total road fund revenues came from this source in 1997, due to a heavy reliance on the motor vehicle usage fee. Through an investigation of each states legislative acts and FHWA breakdowns of this general revenue source, some uniformity was found among the states by region. In particular, the Southern, Western and Northern Regions share four common fee receipts. The common fees for these three regions are registration fees; operator, chauffeur, motor carrier license fees; certificate of title fees; and supervision and inspection fees.

The breakdown of fee receipts by region shows that Kentucky is comparable to its regional states and the states that comprise the Western and Northern Regions.

Accompanying these findings was a breakdown of fee receipts within the RPC states.

When compared to the RPC states, Kentucky has the lowest registration fees. The average fee for an automobile was \$26.39<sup>1</sup> as compared to Kentucky whose flat registration fee is \$14.50. With respect to the other common fees and taxes of the RPC states, Kentucky differed little from these states.

The final breakdown of fee receipts was a comparative of Kentucky to its seven bordering states as illustrated in Diagram 6. This grouping did little to improve comparability of these states. The border states only had four fees in common, a reduction of at least one fee from the regional and RPC groupings. Although the border

states had only four fees that were similar, all eight states had these fees. With respect to registration fees, the border state average was \$28.41. Table 4.8 shows the registration fees for the border states for automobiles of 4,000 pounds or less in the first column and automobiles over 4,000 pounds in column two. This breakdown is used since the State of Virginia uses this classification while the other states use a flat fee system for all automobiles. The third column shows the average number of automobiles registered in each state for the time period 1997 through 1999.

Table 4.8 indicates that Kentucky's fee structure for automobile registrations is the second lowest in the border states.

<b>Table 4.8: Border States Registration Fees 1997-1999</b>			
State	Registration Fee <4001 pounds	Registration Fee >4001 pounds	Average Auto Registrations
Illinois	\$48.00	\$48.00	6,132,583
Indiana	12.75	12.75	3,226,302
Kentucky	14.50	14.50	1,625,614
Missouri	51.00	51.00	2,576,516
Ohio	21.50	21.50	6,628,590
Tennessee	23.00	23.00	2,668,765
Virginia	26.50	31.50	3,689,947
West Virginia	30.00	30.00	747,386
AVERAGE	\$28.41	\$29.03	

### **Road Fund Auditing, Assessment, and Enforcement**

Auditing, assessment, and civil/criminal prosecution for understating tax liabilities are the three principle means available to road fund administrators to insure compliance with state road fund tax laws. Of the three actions, tax audits are the critical step as they determine tax liabilities, facilitate assessments and provide the basis for

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<sup>1</sup> Three states within the RPC, Michigan, Texas and New York, have variable registration fees for automobiles. Therefore, the average registration fee for the RPC was calculated using the lowest fee offered by these three states. The fees are \$29.00, \$40.80, and \$17.25, respectively.

possible criminal prosecution for non-compliance with state road fund tax laws. Audits provide accurate data on fuel use, mileage driven and the number of trucks in a fleet, which are the main determinants of tax liability. Such data are critical to the determination of assessments and provide the legal basis for further legal action if appropriate.

**Audit, Assessment and Enforcement**

To explore the affect of audit, assessment and enforcement, the Kentucky Transportation Center with assistance from the Martin School of Public Policy and Administration sent out an electronic survey to road fund tax administrators in the fifty states and Washington D.C. The survey asked the questions listed in Table 5.1. The response rate was 48 of 51 respondents or 94%. Of these 48 returned surveys, 44 had complete information for fiscal year 1997 and 13 had complete information for fiscal year 1998. Using Table 5.1, the goal of Question 1 and Question 2 are to obtain the amount of tax due through assessments for the two fiscal years without influencing this

<b>Table 5.1: Survey Questions</b>
Question 1: What was the total amount of assessment (defined as total tax due per audit less the amount reported by the taxpayer with the original return) due to audits, of all taxpayers combined, of road/highway revenue funds (i.e., motor fuels taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1997?
Question 2: What was the total amount of assessment (defined as total tax due per audit less the amount reported by the taxpayer with the original return) due to audits, of all taxpayers combined, of road/highway revenue funds (i.e., motor fuels taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1998?
Question 3: How many auditors are currently in your cabinet/division (for all types of audits)?
Question 4: How many office or desk auditors were assigned to road/highway revenue funds (i.e., motor fuel taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1997?
Question 5: How many office or desk auditors were assigned to road/highway revenue funds (i.e., motor fuel taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1998?
Question 6: How many field auditors were assigned to road/highway revenue funds (i.e., motor fuel taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1997?
Question 7: How many field auditors were assigned to road/highway revenue funds (i.e., motor fuel taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1998?

amount by differentials in penalty and interest used by each individual state. Therefore, the data obtain through these two questions reflects only what the taxpayer evaded. The remaining questions reflect the number of personnel assigned to the cabinet or division for auditing and the number of desk and field auditors assigned to the road/highway fund.

Table 5.2 shows the number of states that responded per question on the survey. The data collected in this survey was used to develop a statistical model to look at the affect that enforcement, auditing, and assessments have on road fund revenue compliance.

Question	Number of States Responding
1	44
2	13
3	48
4	48
5	13
6	48
7	13

### **Statistical Model**

A focus of this study is to compare Kentucky’s assessments to its border states using a statistical model while holding comparable data for all other states constant. The assessments for FY 1997 and the peer group measures are illustrated in Table 5.5. As noted in Table 5.5, Illinois and Tennessee did not complete all items of the survey. Therefore, only 5 of the 7 border states were used for the comparison with Kentucky.

State	Population (1000)		Income Per Capita	Rural		Urban		Assessments
	Rural	Urban		VMT	VMT Trucks	VMT	VMT Trucks	
	Illinois	2,040	9,911	26,598	29,575	3,815	69,744	
Indiana	2,096	3,449	22,440	34,506	4,382	34,114	3,002	3,668,243
Kentucky	2,024	1,884	19,687	25,136	2,488	19,626	1,060	1,621,815
Missouri	2,045	3,357	22,864	28,247	3,898	34,733	2,223	2,005,000
Ohio	3,253	7,930	23,537	40,072	4,608	63,603	4,071	784,819
Tennessee	2,199	5,564	21,764	27,065	3,140	33,461	1,539	Did not report
Virginia	2,187	4,547	24,925	31,149	3,177	39,171	1,919	217,703
West Virginia	1,257	560	18,444	13,359	1,416	4,965	487	1,015,695

Source: Compiled by authors.

State	Assessments per 1000 Population	Assessments per Million VMT	Assessments per Million Truck VMT		
			Rural	Urban	Total
Indiana	\$661.54	\$53.46	\$837.12	\$1221.93	\$469.78
Kentucky	\$415.00	\$36.23	\$651.85	\$1530.01	\$457.11
Missouri	\$371.16	\$31.84	\$514.37	\$901.93	\$327.56
Ohio	\$70.18	\$7.57	\$170.32	\$192.78	\$90.43
Virginia	\$32.33	\$3.10	\$68.52	\$113.45	\$42.72
West Virginia	\$559.00	\$55.43	\$717.30	\$2085.62	\$533.73

Source: Compiled by authors.

Table 5.6 compares the border states by placing assessments for FY 1997 into dollars of assessments per one-thousand population, VMT and VMT Trucks (both rural and urban). Using the comparison offered in Table 5.6, four of the states (Indiana, Kentucky, Missouri, and West Virginia) have a similar assessment ratio per one thousand residents. Indiana's assessment rate is the highest at \$661.54 per one thousand residents, while Ohio (\$70.18) and Virginia (\$32.33) are the lowest of Kentucky's border states.

Another important aspect in road/highway fund assessments is the value of assessments relative to truck vehicle miles, the basis of the majority of assessments in

road fund revenues. As is indicated in Table 5.6, for total truck VMTs, West Virginia assessments were the highest at \$553.73 per one million vehicle miles traveled by trucks. Indiana, Kentucky, and Missouri have comparable assessment dollar amounts, while both Ohio and Virginia lagged substantially behind.

Table 5.9 presents the definition of each variable used within the models. Two dependent variables, ASESSVMT and ASSESSMENT, are used in the two-model analysis. The goal of the model development is to look at the effect that auditors, the location of the audit group, and the border states have upon road/highway fund assessments for FY1997, therefore three models are derived from the list of variables to provide different perspectives on those effects.

<b>Table 5.9: Statistical Model Variable Definitions</b>
<b>Dependent Variables</b>
Assessments per million truck VMT for FY1997 (ASESSVMT).
Assessment for FY 1997 in real dollars (ASSESSMENT).
<b>Independent Variables</b>
Border States (BORDER) – Is a dummy variable that includes the states of Kentucky, Illinois, Indiana, Missouri, Ohio, Tennessee, Virginia and West Virginia.
Field Auditors (AUDITOR) – The number of field auditors as reported on the survey. Desk auditors were substituted for field auditors for the states of Georgia and Iowa.
Diesel Tax (DIESELTX) – excise tax in cents per gallon of diesel for 1997.
Income per Capita (INCCAP) – per capita income measured in dollars for 1997.
Urban Road Miles (URBANMIL) – miles of road in urban areas owned by state highway agencies.
Rural Road Miles (RURALMIL) – miles of road in rural areas owned by state highway agencies.
Federal Tax Contribution (FEDTAX) – amount of federal tax revenue awarded to the state for FY1997.
Location (LOCATION) – indicates 1 if collection agency/department is revenue, 0 otherwise

As shown in Tables 5.11, the first model, Model 1, is shown in the linear form. Model 1 shows that only two variables are statistically different from zero at a p-value

less than .05. The first variable that is statistically significant is labeled AUDITOR and has a coefficient of 1232.09. The interpretation of the coefficient is that for an increase of one auditor, on average a state will receive an additional \$1232.09 per truck one million vehicle miles traveled. The second statistically significant variable is labeled FEDTAX. This is an interesting with the coefficient for FEDTAX statistically significant. The coefficient is interpreted as a one-dollar increase in federal tax revenue distributed to a state reduces the amount of assessment per truck one million vehicle miles traveled by approximately 2.5 cents.

<b>Table 5.11 Statistical Results</b>				
<b>Model 1: Dependent Variable is AssessVMT</b>				
	Estimated Coefficient	Standard Error	t-value	p-value
(Constant)	-9568.236	13999.290	-.683	.499
BORDER	-3169.360	4207.138	-.753	.456
AUDITOR	1232.090	146.369	8.418	.000
DIESELTX	-453.027	293.837	-1.542	.132
INCCAP	.737	.481	1.534	.134
URBANMIL	-2.411	1.575	-1.531	.135
RURALMIL	.139	.232	.599	.553
FEDTAX	-0.025	.007	-3.640	.001
LOCATION	-4095.730	3522.164	-1.163	.253
Model R <sup>2</sup> = 68.4%, Adjusted R <sup>2</sup> = 61.1%. Model is statistically significant at p < .000				

Two key findings in the analysis presented in Table 5.11 are that neither BORDER nor LOCATION is statistically significant.

<b>Table 5.12 Statistical Results</b>				
<b>Model 2: Dependent Variable is Assessments</b>				
	Estimated Coefficient	Standard Error	t-value	p-value
(Constant)	-10779567.515	7735463.210	-1.394	.172
BORDER	-2334521.994	2324700.795	-1.004	.322
AUDITOR	173583.587	80877.882	2.146	.039
DIESELTX	15880.943	162362.666	.098	.923
INCCAP	254.514	265.575	.958	.344
URBANMIL	-2230.568	870.158	-2.563	.015
RURALMIL	99.127	128.196	.773	.445
FEDTAX	25.321	3.747	6.757	.000
LOCATION	1551542.906	1946210.959	.797	.431
Model R <sup>2</sup> =72.1%, Adjusted R <sup>2</sup> = 65.8%. Model is statistically significant at p < .000				
<b>Model 2a: Dependent Variable is LnAssessments</b>				
(Constant)	-7.330	45.196	-.162	.872
BORDER	-.443	1.197	-.371	.713
LNAUDIT	1.958	.703	2.784	.009
LNDIESEL	-.662	1.505	-.440	.663
LNINCOME	.292	4.321	.068	.947
LNURBAN	-2.491	.879	-2.832	.008
LNRURAL	-7.277	2.326	-3.129	.004
LNFEEDTAX	.652	.837	.778	.442
LOCATION	.950	1.081	.879	.386
Model R <sup>2</sup> =48.2%, Adjusted R <sup>2</sup> = 36.4%. Model is statistically significant at p < .002				

In Table 5.12, the dependent variable is the dollar amount of assessments for FY1997. Within this analysis, two functional forms are used. The initial model is in the linear form (Model 2). The second model, shown as Model 2a, is in the log-log form. The log-log functional form allows us to look at the elasticity of the auditors with respect to the dollar amount of assessments for FY1997.

Model 2 shows that three of the variables are statistically different from zero at a p-value less than .05. The first statistically significant variable, AUDITOR indicates that a change of one auditor will produce an increase of \$173,583.59 in assessments. This is a large change and provides for further evidence of the importance of auditors in

highway/transportation revenue. The second variable is URBANMIL. URBANMIL indicates that as we increase urban highways owned by state highway agencies by one mile, assessments decline by \$2230.57 on average. The last statistically significant variable is FEDTAX. This estimate is interpreted as one-dollar increase in federal tax revenue distributed to a state increases the amount of assessments by approximately \$25.32. Similar to the findings presented in Table 5.11, both BORDER and LOCATION are not statistically significant.

Looking at Model 2a, the results are very similar to both Model 1 and Model 2, however the interpretation is different. LNAUDIT indicates that a 10% change in the number of auditors increases assessments by 19.58%. This finding shows that auditors are considered elastic with respect to assessments. To clarify this finding, if Kentucky increased its number of auditors by 1, that would produce approximately \$132,313 in assessment revenue. This is an important finding, although it does not include the value-added by auditors with respect to deterring taxpayers from evasion of highway/transportation revenues. Thus, this figure underestimates the total value-added of increasing the number of auditors. Once again, the BORDER and LOCATION variables are not statistically significant. Furthermore, both estimates of the variables in the log-log form indicate that the variables are inelastic, thus do not change with the amount of assessments.

### **Recommendations and Conclusions**

The collection of road fund taxes and revenues involves a complex process of assessment, collection, auditing, and enforcement actions by federal, state, and local government officials and agencies. This complexity increases the opportunities for tax

evasion, which renders the tax collection process inefficient. The following six policy options and recommendations were developed from this study:

1. Actively pursue uniformity and coordination amongst Kentucky's border states.
2. Consider revision of the registration fee system.
3. Assess the administrative costs of having multiple audit groups for road fund revenues.
4. Re-assess the marginal costs of additional field auditors.
5. Evaluate multi-year estimates of road fund assessments.
6. Derive an evasion estimate of the total revenue impact of audits.

The first recommendation, actively pursue uniformity and coordination amongst Kentucky's border states, provides enhanced information sharing among Kentucky's seven border states. This recommendation has three goals. First, completely implement among the border states the Federation of Tax Administrators (FTA) eleven-point plan. Second, encourage multiple insights into reducing collection problems and inefficiencies. Third, coordinate the mitigation of incentives for tax-fee evasion that have been commonly associated with the border states, such as bootlegging.

The second recommendation is to modify the current registration fee system. As illustrated in Table 4.8, Kentucky's registration fees are substantially below the border states average of \$28.41 for automobiles under 4000 pounds and \$29.03 for automobiles over 4000 pounds. Kentucky's dependence on the usage tax can be reduced through an revision of the registration fee structure. Currently the wide diversity among the border states in the registration fee structure increases inefficiencies associated with border-crossing and increases the opportunity for registration fee avoidance and evasion.

The third recommendation, assess the administrative costs of having multiple audit groups for road fund revenues. The statistical analysis showed that the location of the auditing group had no significant effect on the amount of assessments.

This is a good indicator that Kentucky's two cabinet system of a revenue fuel tax audit group and a transportation audit group needs to be reconsidered. The basis of this analysis should be the administrative costs associated with having both audit groups. If consolidation of these groups provides for reduced administrative costs, then administrative efficiency would indicate that Kentucky should reconsider its current policy.

The fourth recommendation addresses the use of field auditors. It was estimated that an additional Kentucky auditor would increase assessments by \$132,313 using the elasticity provided in the analysis. Coinciding with this monetary finding is the fact that Kentucky has a relatively small number of field auditors performing motor fuel tax audits in comparison to other states. Field auditors are valuable in the detection and deterrence of fuel tax evasion, but they also require significant expenditures of public funds. Auditing functions normally realize diminishing returns in terms of audit revenues to state treasuries. To determine the optimal allocation of state funds for this auditing function, the marginal cost associated with adding additional auditors should be calculated and compared with the estimated increase in assessments in order to determine the most efficient quantity of field auditors.

The fifth recommendation is to evaluate multiple year estimates of road fund assessments. This would provide the Commonwealth with a time-trend analysis and a multiple year look at the effect of auditing, taxes, and administration on assessments.

The final recommendation arises from issues partially addressed by this study. The estimates reported in this study need to be substantiated by the derivation of a detailed empirical model based on multiple indicators of the monetary value of auditing

with respect to road fund tax-fee collection, which was beyond the scope of this study. Since we were limited by a single year assessment and used only assessments as value providers for the role of auditors in road fund collection, we have biased the value of auditors downward. That is, due to the lack of a better measure, we have underestimated the elasticity of auditors. Clearly, auditing provides more than just assessments; it is commonly associated with deterring evasion behavior. Therefore, tax and fee collection rise in states that provide additional auditors, which translates into increased revenues since taxpayers realize that the probability of an audit increases. Unfortunately, this phenomena was not measured within this study, but could be estimated within a time series study.

## **CHAPTER 1: Introduction**

Many state governments are faced with difficult fiscal challenges. On the one hand, citizens desire high levels of public services and increased expenditures on selected programs. On the other hand, taxpayers are increasingly demanding limited government, lower taxes and increased government efficiency and effectiveness. State government efforts are paying dividends and progress is being made in making government more efficient through such initiatives as downsizing and rightsizing efforts, privatization of agencies and operations, and reinventing government, which includes attempts to provide government services in new and different ways. However, resource needs continue to grow, particularly for public investment and infrastructure. While additional funds maybe realized from restructuring and management efforts, the costs of infrastructure investments continue to escalate and cost savings and efficiency efforts will, likely, prove insufficient to permit state governments to meet public expectations and needs regarding public investment and infrastructure.

Kentucky, like other states, is facing similar fiscal challenges in providing expanded public services demanded by citizens. One danger of constrained fiscal resources and competition for funds is the tendency to neglect the investment and maintenance of long-term infrastructures like roads, bridges, and highways (see Appendix C for needs based discussion of highway conditions). The Kentucky road fund was established as protection against these dangers by providing earmarked resources to the state's roadways, thereby insuring that basic infrastructure needs are met.

In addition to establishing a road fund revenue base that has sufficient elasticity to meet future investment needs, good tax policy requires the establishment of procedures

and processes that insure taxes and revenues are fairly and effectively collected.

Unfortunately, most of the current literature on collection efficiency focuses on evasion of road fund revenues providing little attention to the collection, assessment, audit and enforcement processes. These processes assure that road funds due to the state are available to meet the needs of Kentucky's transportation infrastructure.

### **Study Purpose**

The collection of road fund taxes and revenues involves a complex process of assessment, collection, auditing, and enforcement actions by federal, state, and local government officials and agencies. This complexity increases the opportunities for tax evasion, which renders the tax collection process inefficient. The complexity of the collection process is further exacerbated by periodic changes in federal tax laws and processing changes that impact a state and its ability to effectively and efficiently collect its road fund taxes and fees.

Previous research regarding the administration and collection of road fund revenues has focused on gaining an understanding of the motivations for tax evasion, methods of evasion, and estimates of the magnitude of evasion for individual states. To our knowledge, little attention has been focused on the impact road fund collection, assessment, audit, and enforcement processes have on the efficiency of tax collection and the elimination of tax evasion. The purpose of this study is to review the current road fund assessment, collection, audit, and enforcement processes and procedures and to develop recommendations to improve the efficiency and effectiveness of the process.

## **Study Design and Chapters' Organization**

The research efforts associated with this project focus on five principal efforts.

These efforts are as follows:

- Provide a review of the literature regarding road fund structure, sources of revenue, tax and revenue characteristics, and legislation affecting road fund administration.
- Analyze and “map” the road fund coordination functions and potential collection problem areas and inefficiencies.
- Estimate the impact taxes and auditors have on the level of road fund assessments in the states.
- Analyze and identify strategies and options for enhancing multi-state collection process related activities.
- Analyze implications for modifying the current road fund administration systems.

Chapter Two provides a review of road fund sources and administration. This chapter includes sources of motorist revenue not included in the FHWA Highway Statistics Reports. Chapter Three provides a review of the literature relevant to the study and analysis of road fund collection process. This chapter also includes a review of legislation that affects road fund administration. Chapter Four provides an overview of a national road fund collection system and “maps” current systems in use by U.S. Census Bureau regions.

Chapter Five analyzes a survey of the fifty States and the District of Columbia that focuses on audit personnel and audit assessments for the 1997 fiscal year. This analysis provides insight into the impact that tax changes and audit personnel have on road fund assessments. These assessments are an important in reducing tax and fee evasion and ensuring that all taxpayers pay their “fair” share of taxation. Chapter Six

provides observations and recommendations regarding future action which the Kentucky Transportation and Revenue Cabinets might consider as they attempt to reduce the revenue losses from Road Fund tax and fee evasion. Throughout the comparative analysis provided in each chapter, particular attention is paid to comparing Kentucky to its six border states that include Illinois, Indiana, Missouri, Ohio, Tennessee, and West Virginia.

The information discussed in these chapters draws heavily on information collected from the Federal Highway Administration and State Road Fund Administrators through written materials, phone calls, and personal interviews. We express appreciation to members of the Federal Highway Administration, the Transportation Cabinets of each state, the Kentucky Division of Road Fund Audits, and the Revenue Cabinets of each state who assisted in providing the information assembled in this report.

## CHAPTER 2: Road Fund Administration

The federalism system in this country allows each state to develop their unique system for road fund revenue collection. As a result, the structure of a state's road fund may differ from others in response to the unique characteristics of the industry in their state and the different views of its citizens. However, the need for interstate communication and the competitive pressures between states act as factors that minimize the differences. This section will examine some of the differences in how states administer their road fund. To explain the differences and commonalties, we break the road fund into two major categories.

The first category is identified as traditional road user taxes and fees. Traditional road user taxes and fees include highway tolls, motor fuels tax, vehicle registration fees, divers license fees, weight-distance taxes, titling taxes, and other fees that are closely related to owning and operating motor vehicles. These are characterized by the Federal Highway Administration (FHWA) as “highway user revenue”<sup>2</sup> and define as the “taxes and fees that are levied on the owners and operators of motor vehicles because of or for their use of the public roadways.”<sup>3</sup>

The second category is titled special taxes and fees. Special taxes and fees include a variety of taxes from a number of sources, such as sales and property taxes. Within the FHWA's accounting framework, some of the special taxes and fees collected from motorists are commingled with receipts from other sources. Therefore, the amount contributed by motorists to this category is not identified by FHWA. To address this

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<sup>2</sup>The FHWA is the major source of state data on the funding of roads, and the analysis provided here utilizes this data as a basis for comparison. The FHWA's use of the word “highway” includes all roads.

<sup>3</sup> FHWA, Highway Statistics 1994, publication no. FHWA-PL-95-042, Washington, D.C.

FHWA states, “not all taxes paid by highway users are highway user revenue. Those taxes and fees that target a broader base than highway users are considered part of the general tax structure of the State, and are not considered to be highway user revenues.” Given this, only the amounts allocated for road purposes from this category are reported by FHWA. For example, a certain amount of local property taxes collected on homes, businesses, motor vehicles, boats, and other personal property are dedicated to roads. This is the amount reported by the FHWA.

To determine the differences in the road fund structure within the United States the two categories must be differentiated and compared. To achieve this comparison, a breakdown of the individual taxes and fees is presented in the following sections.

### **Traditional Road User Taxes and Fees**

#### **Motor Fuel Taxes**

Motor fuel taxes are levied at the federal, state, and local levels. These taxes vary by fuel type (e.g., gasoline, diesel, gasohol), and by tax or fee type (e.g., excise, petroleum testing fee, petroleum business tax, Leaking Underground Storage Tank (LUST) fee, motor carrier tax, sales tax).<sup>4</sup> For example, some states have only a fixed per gallon excise tax rate. Others have additional environmental taxes and fees, while some have several specific taxes that may be levied at different points. In addition to excise taxes, states may apply a sales tax to purchases of motor fuels for highway use. The sales tax is usually applied to an estimate of the average statewide price per gallon.

Some states have variable tax rates that are subject to periodic adjustments depending on current market conditions and state revenue needs. These rates are usually based upon the average wholesale price, with the gallonage rate adjusted quarterly or

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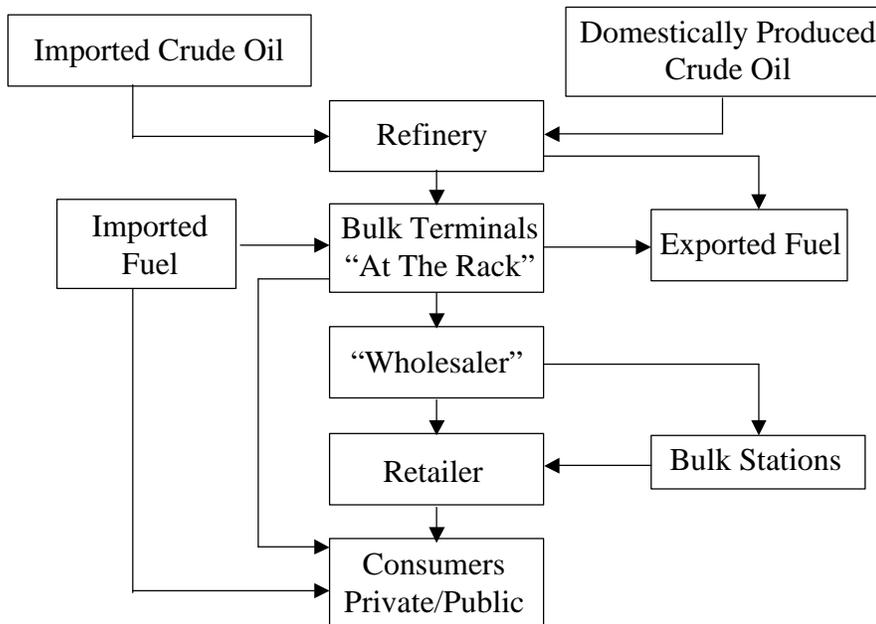
<sup>4</sup> See Appendix A for a detailed comparison of motor fuels taxes in the United States.

annually. These adjusted rates are commonly based on a formula that takes into account highway maintenance costs, the volume of sales, or wholesale fuel prices.

Several states provide a special lower rate to gasohol total tax compared to gasoline total tax. However, some states use a different method to reduce the rate on gasohol, by providing a special tax credit or voucher to in-state producers of ethanol. These credits or vouchers effectively reduce the tax rate on gasohol by not taxing the portion derived from alcohol.

The motor fuel tax may be levied and collected at different points in the fuel distribution process. The taxation point has different implications for types of evasion schemes; types of taxpayers audited, and type of records examined. The schematic presented in Figure 1 illustrates the fuel distribution process.

**Figure 1: Motor Fuel Distribution Process**



Source: Denison and Eger "Tax Evasion from a Policy Perspective: The Case of the Fuels Tax," *Public Administration Review*, 60 (2) March/April 2000.

In general, moving the taxation point upstream (toward the terminal) decreases the number of taxpayers and increases the dollar amount collected per taxpayer (Denison and Eger, 2000). Each of these differences has different implications for audit techniques, types of companies and records auditors/investigators may see.

### **Motor Fuel Tax Administration**

Our federalism system leads to differences among the states as to which agency is responsible for administering the motor fuel excise tax. The different agencies in each state are summarized in Table 2.1. While the individual names may differ, each can be classified as one of two types of agencies, a revenue/tax department or a transportation/motor vehicle department. One of the goals of this study is to examine the benefits and drawbacks to each type of organization.

Forty-two states and the District of Columbia administer the motor fuel tax through a department of revenue, finance, or administration while eight states administer motor fuel tax through transportation (the major tax collecting agency). This places motor fuel excise tax administration under the control of the same agency collecting other types of taxes, which separates the collection of revenues from the management of highway appropriations. This form has been viewed as a functional means of organizing government, citing improved tax collections, through economies of scale, as an increase in efficiency.

Some states take this specialization one step further by organizing the revenue department along functional grounds. In lieu of separate divisions handling income, sales, or motor fuel excise taxes, the department is separated into divisions organized around a tax collection function. Departments organized in this manner utilize different divisions to conduct their operations along all tax types (e.g., processing division, an

information services division, a collection division, an audit division, etc.). Furthermore, some states train auditors to deal with several different types of taxes. However, states have recently discovered how the unique character of the motor fuel industry requires specific specialization. While most taxes are concerned with dollars (income or sales), motor fuel excise taxes are levied according to gallons. Indeed, the need to track fuel transactions in gallons has required many of these states to maintain a staff of specialized fuel tax auditors within the functional audit division.

<b>State</b>	<b>Tax Collected and Administered By</b>
Alabama	Department of Revenue
Alaska	Department of Revenue
Arizona	Department of Transportation, Motor Vehicle Division
Arkansas	Department of Finance & Administration, Motor Fuels Tax Section
California	State Board of Equalization Assesses and State Controller Collects Accounts Receivable
Colorado	Department of Revenue, Taxpayer Services Division
Connecticut	Department of Revenue Services
Delaware	Department of Transportation, Motor Fuel Tax Administration
Dist. of Columbia	Department of Finance and Revenue
Florida	Department of Revenue
Georgia	Department of Revenue, Motor Fuel Tax Unit
Hawaii	Department of Taxation
Idaho	Tax Commission, Motor Fuels Division
Illinois	Department of Revenue
Indiana	Department of State Revenue, Special Tax Division
Iowa	Department of Revenue and Finance
Kansas	Department of Revenue, Business Tax Bureau, Motor Fuels Tax Section
Kentucky	Revenue Cabinet, Motor Fuel Tax Section
Louisiana	Department of Revenue, Excise Tax Division
Maine	State Tax Assessor
Maryland	Comptroller, Motor Fuel Tax Division
Massachusetts	Department of Revenue
Michigan	Department of Treasury, Motor Fuel Tax Division
Minnesota	Department of Revenue, Petroleum Division
Mississippi	State Tax Commission
Missouri	Department of Revenue, Business Tax Bureau
Montana	Department of Transportation, Administration Division
Nebraska	Department of Revenue
Nevada	Department of Taxation, Revenue Division *

<b>Table 2.1: Continued</b>	
<b>State</b>	<b>Tax Collected and Administered By</b>
New Hampshire	Department of Safety, Road Toll Administration
New Jersey	Department of the Treasury, Division of Taxation
New Mexico	Department of Taxation and Revenue, Returns Processing Division
New York	Department of Taxation and Finance
North Carolina	Department of Revenue, Motor Fuels Tax Division
North Dakota	Tax Commissioner, Motor Fuel Tax Section
Ohio	State Treasurer
Oklahoma	Tax Commission, Motor Fuel Division
Oregon	Department of Transportation
Pennsylvania	Department of Revenue
Rhode Island	Department of Administration, Division of Tax, Excise Tax Section
South Carolina	Department of Revenue
South Dakota	Department of Revenue, Motor Vehicle Division
Tennessee	Department of Revenue, Accounting Division, Petroleum Tax Division, Gasoline Tax Section
Texas	Comptroller of Public Accounts
Utah	Tax Commission
Vermont	Department of Motor Vehicles, Commercial Vehicle Operations
Virginia	Department of Motor Vehicles, Motor Carrier Services
Washington	Department of Licensing, Prorate and Fuel Tax Division
West Virginia	Department of Tax and Revenue
Wisconsin	Department of Revenue
Wyoming	Department of Transportation. Refunds Administered by Treasurer's Office
<p>* In Nevada, the Department of Taxation handles fuels excise taxes (gasoline) while the Department of Motor Vehicles and Public Safety handles Special Fuels taxes (diesel fuel).</p> <p>Source: Compiled by authors from Federation of Tax Administrators Fuels tax website at <a href="http://www.taxadmin.org">www.taxadmin.org</a></p>	

Functionally, an advantage to administering motor fuel taxes through a revenue department is the ability to exchange taxpayer information. States have long recognized the need to share information with their neighboring states to avoid fuel tax evasion. However, many states have confidentiality statutes in their tax administration laws that protect the privacy of taxpayer data thereby prohibiting the release of information to non-tax agencies. Indeed, a recent Federation of Tax Administrators (FTA) Uniformity Committee Survey revealed that 25 of the 33 states responding have confidentiality provisions in their laws.

Revenue departments have several tools available to enable the sharing of confidential taxpayer data. The FTA Uniform Exchange of Information Agreement, signed by 45 states, the District of Columbia and New York City, provides a means of sharing taxpayer data among other revenue departments. Also, state revenue departments have access to Internal Revenue Service (IRS) data by utilizing Internal Revenue Code (IRC) sec. 6103 (d). Furthermore, separate agreements have been signed to facilitate exchange among states that administer motor fuel taxes through a non-tax agency. These agreements reduce the efficiency arguments portrayed by those who argue that revenue agencies should be the only collectors of taxation.

As indicated in Table 2.1, eight states administer the motor fuel excise tax through their transportation department or cabinet. Proponents of this type of organization assert that fuel taxes administrated by a revenue department could lead to fewer resources being utilized. Since motor fuel taxes account for only 6% of states' total tax revenue<sup>5</sup>, a revenue department has a greater incentive to allocate more resources to larger tax sources such as income and sales taxes. In a transportation department, the agency is responsible for both raising the revenues and allocating the funds for highway construction. Since the motor fuels tax is the primary source of funds for these functions, a transportation agency has a larger incentive to allocate resources toward collecting revenues and auditing delinquent or fraudulent accounts.

### **Motor Vehicles Registration Fees**

Motor vehicle registration fees are levied at the state and local levels. The annual vehicle registration date varies among the states. Although many states continue to

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<sup>5</sup> Computed from the U.S. Census State Government Tax Collections: 1996.

register specific vehicle types on a calendar year basis, all states use some form of the “staggered” system to register motor vehicles. The “staggered” system permits a distribution of the renewal workload throughout all months. Most states allow pre-registration or permit “grace periods” to better distribute the annual registration workload.

Registration practices for commercial vehicles differ greatly among the states. Some states register a tractor-semitrailer combination as a single unit; others register the tractor and the semitrailer separately. Some states register buses with trucks or automobiles; many states do not report house and light utility trailers separately from commercial trailers or semitrailers; and some states do not require registration of car or light utility trailers.

Coinciding with the diversity of registration practices by the states is the diversity of taxes and fees related to state motor vehicle registrations and special taxes on motor carriers. A comprehensive comparison of taxes and fees among the states for 14 selected vehicles can be found in FHWA publication entitled Road-User and Property Taxes on Selected Vehicles (FHWA, 1997).

### **Drivers Licensing**

Each state and the District of Columbia administer their own driver licensing system. Since 1954 all states have required drivers to be licensed, and since 1959 all states have required examination prior to licensing. As a consequence, tests of knowledge of state driving laws and practices, vision, and driving proficiency are now required for new licensees. The types of licensing required by the states for all motor vehicles are commonly listed under Operator, Chauffeur, or Motor Carrier Driver’s Licenses (FHWA, 1998). The fees associated with these licensing requirements are

usually deposited into a transportation/highway/road fund. For example, California credits the proceeds from the issuance of operator licenses to the Motor Vehicle Account (State Transportation Fund), with separate appropriations made for the Department of Motor Vehicles (DMV), Highway Patrol, Secretary of Business, Transportation and Housing, the Department of Justice, State Air Resources Board, Department of Health, Judicial Council, with the remainder deposited into the State Highway Account (Motor Vehicle Account within the State Transportation Fund).

The Commercial Motor Vehicle Safety Act of 1986 established a requirement for a single state-issued license for operators of commercial motor vehicles and established minimum standards. As the regulations are implemented, any changes that are made in a state's classification scheme are reported to FHWA on form 562. For example, if fees are charged for commercial license examinations, the number of tests administered and the resulting revenue are shown in the FHWA Highway Statistics.

### **Special Taxes and Fees**

In addition to receipts from traditional sources of road fund revenue, motorists also pay a variety of "special taxes and fees" on their motor vehicles. These fall under the following three categories of taxes and fees:

1. Property Taxes
2. Sales Taxes
3. Miscellaneous

### **Property Taxes**

The FHWA reported that local government receipts from property taxes and assessments, which were dedicated to roads, reached \$5.26 billion in 1997.<sup>6</sup> These

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<sup>6</sup> FHWA, *Highway Statistics 1998*, Table LGF-21.

property taxes and assessments are limited to amounts specifically levied for construction and maintenance of local roads and streets or for highway debt service, including road district levies. Hence, these property taxes and assessments are specifically targeted to construction and maintenance of local roads.

Caution should be observed when referring to this special tax since it is not known what part of local property taxes and assessments dedicated to roads and reported by the FHWA are vehicle property taxes and what percent are property taxes and assessments on homes and businesses. In addition, no state receipts from property taxes and assessments were identified by the FHWA in their summary tables of receipts and disbursements for roads. This is because “in most states, property taxes on motor vehicles have little or no direct relation to the use of highways, and the revenues from these property taxes are not available for highways.”<sup>7</sup> However, according to the FHWA’s report, *Road User and Property Taxes*, since it is “probable that motor vehicles constitute a substantial portion of taxable personal property...these taxes are of considerable importance in the analysis of the total tax burden on the motor vehicle owner.”<sup>8</sup>

### **Sales Taxes on Motor Vehicles**

Another source of road fund revenue generated by motorists is the revenue collected from sales taxes on motor vehicles and their maintenance and repair. The U.S. Department of Commerce, Bureau of the Census compiles sales figures by type of business. These include sales from the following businesses listed by Standard Industrial Classification (SIC) number:

SIC 551: New Car Dealers (New and Used)  
SIC 552: Used Car Dealers (Used Only)

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<sup>7</sup> FHWA, *Road User and Property Taxes 1987*, report no. HPM-10/7-87(1.5M)QE, Washington, D.C., p.10.

<sup>8</sup> Ibid.

SIC 553: Tire, Battery & Accessory Dealers  
SIC 556: Recreational Vehicles (ex. boats)  
SIC 557: Motorcycle Dealers (New and Used)  
SIC 75: Maintenance & Repair  
SIC 5012: Medium & Heavy Trucks  
SIC 5015: Used Motor Vehicle Sales

Together the sales from these eight sources of trade-generated tax receipts accounted for approximately 6 percent (5% state and 1% local) of nationwide sales (API, 1997). These sales taxes are deposited in state general fund accounts. The FHWA reported that a total of \$15.1 billion in federal, state, and local general fund accounts was dedicated to road use in 1998.<sup>9</sup>

#### **Miscellaneous Other Taxes and Fees Collected from Motorists**

Some sources of road user revenue are not fully accounted for in the FHWA finance tables. For example, parking ticket and meter revenues are not considered road user imposts by the FHWA although these charges are only levied on motor vehicle users. According to the FHWA's Guide to Reporting Highway Statistics "State receipts from fines and penalties imposed for infractions of traffic laws, i.e., moving violations and parking violations, should not be shown in this report."<sup>10</sup> The state and local revenue generated from parking fees and traffic violations are typically deposited in either a General Fund account or a specific motor vehicle revenue account.

The revenue from taxes on automobile insurance premiums is another source of funds collected from road users, but deposited in accounts other than those dedicated to roads. Insurance premium taxes on gross contract premiums were levied at an average

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<sup>9</sup> FHWA, *Highway Statistics 1998*, Table HF-1.

<sup>10</sup> FHWA, *A Guide to Reporting Highway Statistics*, FHWA Notice N 5600.10, Washington, D.C., January 6, 1994, p.3-5.

nationwide rate of 1.5 percent.<sup>11</sup> According to the Insurance Information Institute, the amount of direct written liability, collision, and comprehensive premiums for private and commercial automobiles totaled \$122 billion in 1995.<sup>12</sup> Multiplying each state's auto premium total by its tax rate results in a rough nationwide estimate of \$1.9 billion in revenue generated from this road user source.

The federal government levies a new car gas guzzler excise tax on the sale of motor vehicles according to a fuel economy (in miles per gallon) rating schedule. The tax ranges from \$1,000 for vehicles with at least 21.5 miles per gallon but less than 22.5 miles per gallon, up to \$7,700 for vehicles with less than 12.5 miles per gallon.<sup>13</sup> In 1994 the nationwide tax receipts from this source of revenue amounted to \$64.1 million.<sup>14</sup>

### **Summary**

This chapter has divided highway/road/transportation fund taxes and fees into two categories, traditional road user taxes and fees and special taxes and fees. The variation in these types of taxes and fees are an integral part of the financing of highways. Table

Revenue Sources	Percent of states using revenue source.
Driver's Licensing	100
Taxes on Motor Fuels	100
Vehicle Registration and Licensing	100
Excise tax on vehicle sale	89
Property Tax on vehicle	69
Usage Tax on vehicle	58

Sources: FHWA Highway Taxes and Fees (1998); CSG/ CGPA Survey: Vehicle Licensing, 1995. [45 states reporting]

<sup>11</sup> Insurance Information Institute, *The Fact Book 1997*, New York, New York, 1996, p.38.

<sup>12</sup> Ibid.

<sup>13</sup> U.S. Congress, Joint Committee on Taxation, "Schedule of Present Federal Excise Taxes (as of January 1, 1994)", U.S. Government Printing Office, Washington, D.C., June 28, 1994, p.21.

<sup>14</sup> American Automobile Manufacturers Association, *Motor Vehicle 1996 Facts & Figures*, Detroit, Michigan, p.87.

2.2 shows the percentage of states using traditional road user taxes and fees and special taxes and fees.

Table 2.2 and the previous discussion highlight the fact that revenue sources for state highways vary significantly across the nation. A discussion of the implication that this variation in revenue sources has upon state revenue processes is the focus of this study. Chapter 3 provides a literature review that may lead to some insight about the causes of variation in road user revenues and collection.

## **CHAPTER 3: Literature Review**

The majority of studies concerning highway/road/transportation fund revenues have focused on tax compliance and evasion. This literature has emerged since the late 1980s, following similar research regarding income taxation. Although income tax evasion is not the same as road tax/fee evasion, results of income tax evasion are likely to be similar to those experienced in road tax evasion. According to these studies, approximately two-thirds of all taxpayers intended to pay their income taxes correctly, although 7 percent seem to err honestly both in overpaying and in underpaying. Approximately one-fourth of all taxpayers underpaid their taxes by a sizeable amount (\$1500 or more), meaning that it is likely this percentage of the population intended to cheat (Andreoni et al., 1998). This chapter reviews the literature on tax evasion and national legislation that affects both highway/road/transportation fund tax evasion efforts and collection procedures.

### **Tax Evasion Studies**

#### **New Jersey Motor Fuel Tax Evasion Report**

In 1992, New Jersey officials commissioned a report on fuel tax evasion within their state (KTC, 1996). The study summarizes the testimony of experts in motor fuel tax enforcement. This study reported fuel tax evasion results in a \$40 million annual loss to the state.

These experts assert that money is the incentive to evade taxes. At the time of the report, as much as 37.6 cents per gallon of diesel could potentially be evaded. The legitimate fuel retailers feel the adverse effects of evasion when fuel evaders undercut the price of legitimate retailers. This puts pressure on the legitimate retailers to purchase fuels from dishonest suppliers at a lower wholesale cost.

The New Jersey report discusses several possible solutions to the fuel tax evasion problem. The New Jersey Fuel Tax Evasion report suggested the following points to reduce evasion of the fuels tax: 1) register users and sellers of fuel; 2) enhance the tracking of No. 2 fuel (diesel); 3) collect fuel taxes at first sale at the terminal; 4) increase penalties for civil and criminal tax fraud.

### **Virginia Tax Evasion Report**

The Virginia study undertakes a systematic analysis of the motor fuels tax administration in Virginia to reduce potential evasion (CSG/CGPA, 1996). The study focuses on the following key points: 1) the point of taxation on fuel sales; 2) the need to simplify the present exemption/refund system for tax exempt sales; and, 3) the appropriate scheduling for remitting fuel tax payments to the state. The popularity of the Virginia study is in part due to an infamous sting operation, prompting the study, which shut down seven truck stops and confiscated several trucks.

### **Council of State Governments Study**

The Council of State Governments (CSG) in association with the Council of Governors' Policy Advisors (CGPA) initiated a general investigation of motor fuels tax evasion from the states' perspective in 1996 (CSG/CGPA, 1996). The study utilized survey responses from state motor fuel administrators and empirical models to estimate the aggregate state revenues lost in 1993 due to evasion of motor fuels taxes.

The survey component of the study was comprised of three surveys. One survey broadly addressed evasion of the major revenue sources for states. The other two surveys addressed evasion of motor fuels taxes and vehicle registration in considerable detail. The survey on motor fuels tax evasion was sponsored in cooperation with the University of Kentucky Transportation Center. The dollar estimations of state revenue lost through

evasion were based on the perceptions of the motor fuels tax administrators. By applying these perceptions to the state collections of motor fuels, the aggregate loss of state revenue was estimated to be \$1.2 billion.

The empirical component of the CSG report derived econometric models that predict the volume of fuel consumed within each state. The estimation is compared to the sum of the taxed and non-taxed gallons of fuel for each state. The difference between the estimated and reported consumption of fuel is considered evasion. Several models were considered to estimate the true “consumption” of fuel, and each model predicted similar levels of evasion.

The CSG estimate of 952 million dollars is a reasonable estimate of the aggregate state evasion loss and is consistent with federal estimates. However, the regression models were estimated using cross-sectional data from all fifty states, which may provide a biased estimate when evasion is considered over time.

#### **Kentucky Transportation/ Kentucky Transportation Cabinet Report 1996**

The Kentucky Transportation Center (KTC) in association with the Kentucky Transportation Cabinet (KYTC) initiated a general investigation of motor fuels tax evasion in Kentucky in 1996. (KTC, 1996) This report estimated that tax evasion losses for the Kentucky road fund ranged from \$14 to \$20 million. The report cited several recommendations to reduce the impact evasion had on the Kentucky Road Fund. These included: 1) active participation in regional task forces; 2) full implementation of the Federation of Tax Administrators (FTA) eleven-point plan; 3) assessment of the marginal costs of additional field auditors; 4) modification of the state fuel tax administration to mirror the federal system; and, 5) initiating an investigation of the severity of evasion of

vehicle licensing /registration, weight distance tax, and other highway/road/transportation fund revenues.

The study indicated that the continually changing methods of tax evasion tended to adapt to new methods of tax enforcement. However, there are strategies that can reduce the potential loss due to fuel tax evasion. The fight against fuel tax evasion is fought on three fronts: federal, regional, and individual state level. The federal government is working to improve compliance to the federal motor fuels tax through ISTEA, the FTA and other organizations and legislation. Regions of states are coordinating to reduce evasion that occurs because of inadequate information regarding the transfer of fuels across state lines. Lastly, the study argued that Kentucky must identify the unique characteristics that make Kentucky vulnerable to evasion and act to remedy potential evasion loss.

#### **Kentucky Transportation/ Kentucky Transportation Cabinet Report 1997**

Implementation of policies designed to reduce evasion of the highway/road/transportation fund revenues, generally require changes to state law (KTC, 1997). This study reviewed the statutes and legislation of states in the southern region and identified those states that have adopted anti-evasion policies. This report focused on legislation that affects the licensing of petroleum distributors, fuel tax administration, and fuel tax enforcement.

The recommendations of the study were presented to address evasion of the motor fuel excise tax, vehicle registration, and the ad valorem property tax. These recommendations were: 1) redesign license plates and registration materials to enhance the visibility of unregistered vehicles; 2) adopt legislation that changes the penalties associated with driving an unregistered vehicle; 3) adopt a minimal fee for unregistered

vehicle citations issued by law enforcement; 4) periodic re-issuance of license plates and/or other highly visible registration materials; 5) change the criminal penalty associated with motor fuel tax from a misdemeanor to a felony; 6) adopt legislation that holds corporate officers personally liable for the fuel tax submission and payment; 7) change the point of taxation from the dealer level to at the rack; and, 8) work with interstate cooperative organizations to coordinate enforcement of fuel tax evasion.

The fuel tax recommendations (recommendations 5 through 8) embodied changes in legislation to reduce non-compliance and increase personal liability for the payment of collected fuel tax revenues. In general, the vehicle registration and licensing recommendations (recommendations 1 through 4) focused on enhanced visibility of compliant registration and increased penalties associated with vehicle registration. The vehicle registration recommendations were also considered instrumental in reducing the number of unregistered vehicles from escaping Kentucky's assessment of the ad valorem property tax.

### **National Legislation that Impacts Road Fund Revenues and Enforcement**

#### **Intermodal Surface Transportation Efficiency Act**

The purpose of the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) is explicitly detailed in its statement of policy: "...to develop a National Intermodal Transportation System that is economically efficient, environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner."<sup>15</sup>

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<sup>15</sup> From "Intermodal Surface Transportation Efficient Act of 1991 – Summary" by the Bureau of Transportation Statistics at [www.bts.gov/smart/cat/ste/html](http://www.bts.gov/smart/cat/ste/html)

ISTEA provided a sweeping overhaul of funding and oversight of the nation's roads. This legislation also influenced broad transportation issues regarding railroads, airways, waterways, and recreation trails. Moreover, ISTEA is, arguably, the most important federal legislation passed to improve efforts to reduce motor fuels tax evasion (KTC, 1997). Section 1040 of ISTEA legislation provided funding for federal studies and to the states for the purpose of reducing evasion of motor fuel taxes. ISTEA authorized \$5,000,000 per year for FY 1992 through 1997 from the Highway Trust Fund, and \$2,500,000 per year from the General Fund for highway use tax evasion projects.

Section 1040 authorized nine regional motor fuel tax enforcement task forces to be organized under the coordination and leadership of the Internal Revenue Service District offices and State revenue agencies in the States of Massachusetts, New Jersey, North Carolina, Florida, Indiana, Nebraska, Texas, California, and Oregon. Funding for fiscal years 1992-1995 were allocated to the States and the District of Columbia for tax evasion projects to encourage participation in these task forces. Nearly all States obligated the available funds, which were previously allocated to the States by the FHWA.

ISTEA established regional control of transportation systems throughout the nation in an effort to increase the compatibility of transportation modes. The Motor Carrier Act of 1991 under Title IV of ISTEA established deadlines for States to participate in the International Registration Plan (IRP) and International Fuel Tax Agreement (IFTA) and directed the Interstate Commerce Commission (ICC) to establish a new program for motor carriers, with ICC operating authority to register with States. The Act stipulated that by September 30, 1996, States must join the IRP, a base-State

agreement for the registration of trucks and busses operating in different states, and IFTA, which is a similar agreement for fuel taxes. The passage of the National Highway System Designation Act of 1995 changes some of the funding requirements, mandates, and regional management provisions of ISTEA but has little direct effect on the section on motor fuel taxes.

### **Omnibus Budget Reconciliation Act**

Section 1040(e) of ISTEA legislation authorized a study to determine the feasibility and desirability of using dye and markers as a deterrent of motor fuels tax evasion. The resulting study concluded that tax revenue recovery of 10 to 15 percent of the Federal Highway Administration (FHWA) estimated revenue loss would justify the estimated 158 million dollars in cost of implementation (CSG/CGPA, 1996). Therefore, Congress legislated as part of the Omnibus Budget Reconciliation Act of 1993 (OBRA) the implementation of a dyed fuel policy.

In the United States, non-taxed fuel is dyed red. This is to help distinguish those distillate fuels and gasoline exempt from federal taxation, which include: fuel purchased for purposes other than propelling highway vehicles, trains, and aircraft; fuel used for farm machinery; fuel used by state and local governments; fuel used for nonprofit educational use; and exported fuel. There are exceptions, which permit dyed fuel to be used to propel vehicles on the highway, such as state and local government vehicles, intercity buses, school buses, local transit buses, vehicles owned by nonprofit educational organizations, vehicles owned by aircraft museums, and Red Cross vehicles.

The OBRA legislation shifted the liability of tax collection from wholesalers to producers. Therefore, all sales from the refineries to unlicensed wholesalers or dealers

will require payment of applicable taxes. Shifting the point of tax collection reduces evasion by reducing the number of taxpayers monitored by enforcement officers.

### **International Fuel Tax Agreement**

ISTEA provided for conformity with IFTA by September 30, 1996 for the collection of fuel use tax. In 1996, the International Fuel Tax Agreement (IFTA) replaced individual state motor-fuel tax provisions on interstate motor carriers with a uniform method of reconciling motor-carrier taxation among member jurisdiction. All states and Canadian provinces have become participating members in IFTA. Jurisdictions continue to set their own tax rates according to local road construction needs, and notify other jurisdictions of rate changes so that other members collect taxes at the proper rates. Motor-fuel tax reporting is simplified by allowing a motor carrier to report and pay taxes owed to a single base jurisdiction.

Formerly, motor carriers had to register vehicles and pay fuel taxes state by state. With IFTA, however, carriers may register vehicles in their base state; reporting and paying state fuel taxes will also be handled through a carrier's home state. FHWA encouraged this system since they believed that by simplifying taxpaying and credentializing procedures, carrier productivity and efficiency would increase markedly. The streamlining actually occurred well before the September 30, 1996 deadline set by ISTEA 1991. In 1992, the FHWA established and coordinated a working group composed of state and local government officials to bring all states into the two agreements.

At the time of enactment of the legislation, 45 states were members of the IRP and 20 were in IFTA. Hawaii and Alaska were not included in the legislative mandate for the IRP, and the act exempted Vermont, New Hampshire and Maine from IFTA because

they were members of the Regional Fuel Tax Agreement. All the affected states have joined the two important compacts. Under the IRP, carriers can register their vehicles in their base state, and the registration fees are apportioned among the states in which they operate. Similarly, the IFTA is an agreement for reporting and paying state fuel taxes through a carrier's home state only.

The FHWA issues a publication, *Highway Taxes and Fees, How They Are Collected and Distributed*, that details payment procedures under IFTA. According to this publication, the uniform method stipulated under IFTA simplified motor-fuel tax reporting by allowing a motor carrier to report and pay motor-fuel taxes owed to the States and Canadian Provinces to a single base jurisdiction, typically their home State or Province (FHWA, 1998). Under IFTA, an Interstate motor carrier only needs a single IFTA fuel tax license for each of its qualified motor vehicles.

For qualified motor vehicles – as defined by IFTA, the formula most used for the calculation of IFTA-taxed gallonage is: 1) total mileage is divided by total fuel usage to determine fleet miles per gallon, and 2) total mileage within each jurisdiction is then divided by fleet miles per gallon to determine taxable gallons for each jurisdiction. Taxable gallons are multiplied by the member tax rates to determine the amount of the tax liability. The amount of the tax is paid to the base jurisdiction. IFTA defines the base jurisdiction as the jurisdiction where: the motor carrier is registered, the operational control and operational records of the qualified motor vehicles are maintained, and some travel actually occurs by qualified motor vehicles of a motor carrier's company fleet.

The base State or Province uses a clearinghouse arrangement to forward the portion of motor-fuel taxes owed to other member States and Provinces. One of these

Regional Processing Centers contains 15 State members and two Canadian Provinces. The states are: Alabama, California, Connecticut, Delaware, Georgia, Kentucky, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, Pennsylvania, Rhode Island and Texas; the Provinces are Quebec and Ontario. To recover the costs of administering IFTA, some States have established dedicated fees generally paid by motor carriers within a certain jurisdiction. Alabama, Florida, Idaho, Massachusetts, Montana, Washington, West Virginia have all instated fees such as this.

IFTA taxable gallonage may be calculated in more than one way. Several States have legislated a variation of the formula with the results about the same as the above formula. Payments for qualified motor vehicles are made quarterly in all jurisdictions. The quarterly report and payments are due on the last day of the month immediately following the close of the quarter for which the report and payment are being filed.

#### **International Registration Plan**

The International Registration Plan is a registration reciprocity agreement among jurisdictions in the United States and Canada, which provides for payment of license fees on the basis of fleet miles operated in various jurisdictions.

The unique feature of this Plan is that, even though license fees are paid to the various jurisdictions in which fleet vehicles are operated, only one license plate and one cab card is issued for each fleet vehicle when registered under the Plan. A fleet vehicle is known as an apportionable vehicle and such vehicle, so far as registration is concerned, may be operated both interjurisdictionally and intrajurisdictionally.

## **Transportation Equity Act for the 21<sup>ST</sup> Century**

The Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) builds on the initiatives established in the ISTEA legislation. The list of significant features of TEA-21 according to FHWA include:

- Assurance of a guaranteed level of Federal funds for surface transportation through FY 2003. The annual floor for highway funding is keyed to receipts of the Highway Account of the Highway Trust Fund (HTF). Transit funding is guaranteed at a selected fixed amount. All highway user taxes are extended at the same rates when the legislation was enacted. Federal motor fuels taxes are the major source of income into the HTF.
- Continuation of the proven and effective program structure established for highways and transit under the landmark ISTEA legislation. Flexibility in the use of funds, emphasis on measures to improve the environment, focus on a strong planning process as the foundation of good transportation decisions- all ISTEA hallmarks- are continued and enhanced by TEA-21. New programs such as Border Infrastructure, Transportation Infrastructure Finance and Innovation, and Access to Jobs target special areas of national interest and concern.
- Investing in research and its application to maximize the performance of the transportation system. Special emphasis is placed on deployment of Intelligent Transportation Systems to help improve operations and management of transportation systems and vehicle safety.

TEA-21 continues the Highway Use Tax Evasion program to halt motor fuel tax evasion. Most of the funds authorized under 23 U.S.C. 143 are reserved for the Internal Revenue Service (IRS) for the development and operation of an automated fuel reporting

system. In fact the Act explicitly states that before any other distribution is made, sufficient funds must be made available to the IRS to establish and operate an automated fuel reporting system. The balance of the funds is allocated to the states, primarily to support continued participation in the regional motor fuel tax enforcement task forces.

Section 1101(a)(14) authorizes funding for highway use tax evasion projects. Ten million dollars were authorized for FY 1998 and \$5,000,000 has been authorized for each for the fiscal years through 2003.

Section 143 details the limitations for funding regarding highway use tax evasion projects. Funds made available to carry out tax evasion projects shall be used only:

- a. To expand efforts to enhance motor fuel tax enforcement
- b. To fund additional IRS staff, but only to carry out functions as described in this section
- c. To supplement motor fuel tax examinations and criminal investigations
- d. To develop automated data processing tools to monitor motor fuel production and sales
- e. To evaluate and implement registration and reporting requirements for motor fuel taxpayers
- f. To reimburse state expenses that supplement existing fuel tax compliance efforts
- g. To analyze and implement programs to reduce tax evasion associated with other highway use taxes.

The Act further stipulates that no allocation shall be made to a state unless the state certifies that it's aggregate expenditure of funds, exclusive of Federal funds, for

motor fuel tax enforcement activities will be maintained at a level that does not fall below the average level of such expenditure for the preceding two fiscal years of the state. The Federal share of the cost of a project carried out under this subsection is 100 percent, and funding authorized to carry out this section will be available for a period of three years after the last day of the fiscal year for which the funds are authorized. Because of the high rate of return on investment for compliance efforts, TEA-21 allows states to use up to one-fourth of one percent of their Surface Transportation Program funds for this purpose.

### **Summary**

This literature review indicates that road fund tax evasion is a problem that continues to be addressed by the federal and state governments in road fund administration. The recommendations that embody this research have been implemented or considered by many state governments.

## **CHAPTER 4: Road Fund Collection System**

The first section of this chapter reviews state road fund collection systems. The second section focuses on mapping each states collection system and categorizes the states by U.S. Census regions. The sources of this “mapping” are the legislative acts for each individual state. These legislative acts not only determine what tax/fee source is used, but also determine the allocation of these revenues. The premise of this regional generalization is that at least 75% of the states within the region use or define this type of tax/fee source as part of their collection and assessment process. The third section “maps” the Regional Processing Center states. This consortium of states is based on the International Fuel Tax Agreement (IFTA) legislation and includes the state of Kentucky. The fourth section compares Kentucky to its border states of Illinois, Indiana, Missouri, Ohio, Tennessee, Virginia, and West Virginia.

### **Collection System and Sources as Reported by FHWA**

Highway/road/transportation fund sources vary across the United States. However, there are essentially eight revenue sources reported to FHWA from which states finance highway infrastructure. Broadly, these are fee receipts, fuel tax receipts, other imposts and general funds, miscellaneous income, bond proceeds, federal government subsidies and local government revenues. Each state relies on these eight sources to varying degrees.

Table 4.1 illustrates how each state opted to meet its highway’s financial obligations in 1997 as reported to FHWA. Across all states, fuel taxation leads income generating sources at 34%, federal government funding follows at 27%, and fees rank third at 22%. As Table 4.1 illustrates, however, these simple averages are deceptive

because there exists substantial variation in revenue composition across states. For example, although fuel taxation comprises 34% of all revenue sources on average, Alaska receives only five percent of its revenue from fuel taxation, while North Carolina receives 53% if its revenue from this source.

**Table 4.1: FHWA Revenue Source Breakdowns 1997**

STATES	Total Fee Receipts	Total Fuel Tax Receipts	Road and Crossing Tolls	Other Imposts and General Funds	Miscellaneous Income	Bond Proceeds	Federal Government	Local Governments
Alabama	16.24%	48.82%	0.00%	1.76%	0.45%	0.00%	32.67%	0.06%
Alaska	6.67%	4.52%	3.28%	27.51%	5.05%	0.00%	52.96%	0.00%
Arizona	15.97%	31.22%	0.00%	10.82%	3.31%	9.46%	17.20%	12.02%
Arkansas	15.38%	45.21%	0.00%	1.58%	2.59%	0.00%	33.94%	1.30%
California	47.51%	26.33%	1.31%	0.00%	2.91%	0.00%	18.40%	3.54%
Colorado	20.93%	45.74%	0.00%	4.26%	0.27%	0.00%	27.11%	1.69%
Connecticut	16.19%	33.85%	0.01%	0.00%	5.52%	21.83%	22.55%	0.05%
Delaware	14.58%	19.47%	21.25%	7.39%	4.19%	13.59%	19.54%	0.00%
Dist. of Col.	41.79%	24.23%	0.00%	0.00%	0.03%	0.00%	33.95%	0.00%
Florida	22.50%	31.65%	9.33%	2.45%	3.18%	8.39%	20.35%	2.15%
Georgia	15.57%	26.34%	1.15%	9.37%	2.96%	8.35%	35.12%	1.14%
Hawaii	18.46%	15.14%	0.00%	0.56%	2.67%	24.97%	38.20%	0.00%
Idaho	22.79%	45.46%	0.00%	0.00%	0.00%	0.00%	31.27%	0.47%
Illinois	24.15%	36.80%	9.74%	2.47%	2.08%	3.50%	20.28%	0.98%
Indiana	15.73%	44.94%	4.68%	0.00%	1.86%	0.00%	30.72%	2.07%
Iowa	26.54%	33.85%	0.00%	14.25%	0.96%	0.00%	24.40%	0.00%
Kansas	13.98%	29.29%	5.38%	18.32%	6.90%	4.14%	18.41%	3.58%
Kentucky	40.55%	30.62%	0.91%	0.00%	7.53%	0.00%	20.32%	0.06%
Louisiana	11.25%	44.29%	2.30%	29.14%	0.36%	0.00%	12.66%	0.00%
Maine	16.49%	31.58%	8.97%	0.42%	1.08%	12.84%	28.63%	0.00%
Maryland	38.41%	32.17%	6.67%	1.20%	1.94%	0.00%	18.98%	0.63%
Massachusetts	10.59%	20.91%	5.71%	0.00%	2.04%	29.90%	30.83%	0.00%
Michigan	31.18%	35.46%	1.01%	7.26%	3.13%	0.00%	20.14%	1.83%
Minnesota	36.22%	37.51%	0.00%	0.00%	4.91%	1.55%	17.16%	2.65%
Mississippi	16.57%	44.41%	0.00%	3.81%	4.91%	0.00%	29.95%	0.36%
Missouri	17.44%	40.24%	0.00%	11.29%	2.95%	0.00%	27.55%	0.54%
Montana	12.69%	43.51%	0.00%	0.00%	0.53%	0.00%	43.11%	0.17%
Nebraska	11.36%	38.65%	0.00%	20.74%	1.28%	0.00%	24.67%	3.29%
Nevada	21.74%	48.03%	0.00%	1.64%	2.98%	0.00%	24.82%	0.79%
New Hampshire	23.04%	32.23%	13.84%	0.00%	5.52%	0.20%	23.67%	1.50%
New Jersey	17.45%	13.62%	16.43%	3.78%	7.88%	24.41%	16.42%	0.01%
New Mexico	32.43%	34.91%	0.00%	0.11%	1.28%	0.00%	30.77%	0.49%
New York	15.31%	28.29%	14.35%	9.93%	3.06%	12.91%	16.15%	0.00%
North Carolina	16.86%	52.74%	0.06%	9.64%	3.09%	0.00%	17.10%	0.52%
North Dakota	16.65%	33.93%	0.00%	1.75%	0.44%	0.00%	42.42%	4.81%
Ohio	17.97%	41.48%	3.52%	0.90%	1.85%	13.54%	19.97%	0.77%

**Table 4.1: Continued**

	Total Fee	Total Fuel	Road and	Other	Miscella-			
STATES	Receipts	Tax	Crossing	and	neous	Bond	Federal	Local
		Receipts	Tolls	General	Income	Proceeds	Government	Governments
				Funds				
Oklahoma	31.86%	30.41%	9.13%	2.36%	1.52%	0.00%	23.13%	1.59%
Oregon	30.25%	34.77%	0.00%	2.17%	2.74%	0.00%	28.52%	1.56%
Pennsylvania	20.30%	41.86%	11.65%	0.00%	3.43%	0.00%	22.28%	0.48%
Rhode Island	16.88%	33.31%	2.75%	0.00%	0.28%	8.23%	38.54%	0.00%
South Carolina	13.71%	49.71%	0.00%	0.00%	2.16%	3.87%	30.45%	0.11%
South Dakota	14.33%	31.39%	0.00%	12.30%	1.16%	0.00%	39.53%	1.29%
Tennessee	14.96%	50.31%	0.01%	6.69%	0.75%	0.00%	25.50%	1.79%
Texas	38.87%	33.82%	0.75%	0.34%	1.16%	6.02%	17.72%	1.33%
Utah	11.58%	38.66%	0.06%	22.17%	0.19%	0.00%	26.71%	0.63%
Vermont	37.20%	28.58%	0.00%	0.03%	2.48%	0.00%	31.18%	0.53%
Virginia	29.22%	29.16%	2.88%	18.11%	2.58%	1.91%	14.97%	1.16%
Washington	42.51%	28.96%	3.33%	0.00%	1.77%	4.33%	18.08%	1.02%
West Virginia	23.30%	29.67%	4.09%	2.93%	1.81%	0.00%	38.17%	0.02%
Wisconsin	20.09%	45.02%	0.00%	0.04%	1.86%	7.48%	22.73%	2.79%
Wyoming	15.08%	18.45%	0.00%	3.00%	2.55%	0.00%	60.58%	0.34%

Statistics:	Fees	Fuels	Tolls	Imposts	Misc.	Bonds	Fed. Gov	Loc. Gov.
Average	21.95%	34.34%	3.23%	5.34%	2.51%	4.34%	27.07%	1.22%
Median	17.45%	33.85%	0.06%	1.76%	2.16%	0.00%	24.82%	0.63%

Source: Compiled from FHWA Tables MF1 and MF21, 1997.

Given our federalist system, this outcome is hardly surprising: Each state is taxing and collecting fees according to its own particular circumstances and objectives.

Legislation, such as ISTEA, on the other hand, attempted to generate uniformity among states with respect to fuel taxation and fee imposition in order to simplify the collection and remittal procedures between states and, most importantly, to decrease the occurrence of tax evasion. Since it is apt to be difficult to accomplish uniformity among states while permitting each state to continue acting in its own self-interest, it would be informative to examine whether any kind of financing tendencies are present among states. It would simplify matters significantly, for example, if certain groups of states tended to finance in a similar manner.

Table 4.2 presents the results of grouping the states according to census region (northern, southern, mid-western and western). Unfortunately, no systematic regional tendencies or differences in revenue composition are apparent. Certainly no regional tendencies are present for fee receipts. The same is true for fuel tax receipts, although one might conclude after examining Table 4.2 that the Mid-Western states have a certain degree of uniformity for fuel taxation as the standard deviation for this region is comparatively small. Census breakdowns are admittedly an arbitrary aggregation, so finding a lack in uniformity is not too surprising.

Census Region	Total Fee Receipts*	Total Fuel Tax Receipts	Road and Crossing Tolls	Other Imposts and General Funds	Miscellaneous Income	Bond Proceeds	Federal Government	Local Governments
<b>Northern</b>								
Average	19.27%	29.36%	8.19%	1.57%	3.48%	12.26%	25.58%	0.29%
Minimum	10.59%	13.62%	0.00%	0.00%	0.28%	0.00%	16.15%	0.00%
Maximum	37.20%	41.86%	16.43%	9.93%	7.88%	29.90%	38.54%	1.50%
Standard Deviation	7.53%	8.11%	6.32%	3.37%	2.42%	11.25%	7.36%	0.50%
<b>Mid-Western</b>								
Average	20.47%	37.38%	2.03%	7.44%	2.45%	2.52%	25.66%	2.05%
Minimum	11.36%	29.29%	0.00%	0.00%	0.44%	0.00%	17.16%	0.00%
Maximum	36.22%	45.02%	9.74%	20.74%	6.90%	13.54%	42.42%	4.81%
Standard Deviation	7.56%	4.97%	3.16%	7.66%	1.83%	4.21%	8.15%	1.42%
<b>Southern</b>								
Average	23.62%	36.65%	3.44%	5.69%	2.42%	2.48%	24.97%	0.72%
Minimum	11.25%	19.47%	0.00%	0.00%	0.03%	0.00%	12.66%	0.00%
Maximum	41.79%	52.74%	21.25%	29.14%	7.53%	13.59%	38.17%	2.15%
Standard Deviation	10.78%	10.44%	5.58%	7.70%	1.88%	4.15%	8.03%	0.73%
<b>Western</b>								
Average	22.97%	31.98%	0.61%	5.56%	2.02%	2.98%	32.13%	1.75%
Minimum	6.67%	4.52%	0.00%	0.00%	0.00%	0.00%	17.20%	0.00%
Maximum	47.51%	48.03%	3.33%	27.51%	5.05%	24.97%	60.58%	12.02%
Standard Deviation	12.13%	13.18%	1.25%	9.12%	1.50%	7.17%	13.33%	3.23%
<b>Total States</b>								
Average	21.95%	34.34%	3.23%	5.34%	2.51%	4.34%	27.07%	1.22%
Median	17.45%	33.85%	0.06%	1.76%	2.16%	0.00%	24.82%	0.63%
* This grouping includes a mixture all fee receipts reported by states. Source: Compiled from FHWA Tables MF1 and MF21, 1997.								

Grouping according to the Regional Processing Center (RPC), a consortium of states based on the International Fuel Tax Agreement (IFTA) legislation, does little to enhance uniformity. As evidenced in Table 4.3, this grouping generates very little uniformity in terms of fee receipts (standard deviation is 12% now, as compared to 12%, 11%, and 8% for Census regions.) Fuel taxation is not improved either; however, the standard deviation of this grouping is third out of fifth if the Census results and RPC results are grouped together.

**Table 4.3: RPC Breakdown of FHWA 1997 Revenue Sources**

RPC	Total Fee Receipts	Total Fuel Tax Receipts	Road and Crossing Tolls	Other Imposts and General Funds	Miscellaneous Income	Bond Proceeds	Federal Government	Local Governments
California	47.51%	26.33%	1.31%	0.00%	2.91%	0.00%	18.40%	3.54%
Connecticut	16.19%	33.85%	0.01%	0.00%	5.52%	21.83%	22.55%	0.05%
Delaware	14.58%	19.47%	21.25%	7.39%	4.19%	13.59%	19.54%	0.00%
Georgia	15.57%	26.34%	1.15%	9.37%	2.96%	8.35%	35.12%	1.14%
Kentucky	40.55%	30.62%	0.91%	0.00%	7.53%	0.00%	20.32%	0.06%
Maine	16.49%	31.58%	8.97%	0.42%	1.08%	12.84%	28.63%	0.00%
Maryland	38.41%	32.17%	6.67%	1.20%	1.94%	0.00%	18.98%	0.63%
Massachusetts	10.59%	20.91%	5.71%	0.00%	2.04%	29.90%	30.83%	0.00%
Michigan	31.18%	35.46%	1.01%	7.26%	3.13%	0.00%	20.14%	1.83%
New Jersey	17.45%	13.62%	16.43%	3.78%	7.88%	24.41%	16.42%	0.01%
New York	15.31%	28.29%	14.35%	9.93%	3.06%	12.91%	16.15%	0.00%
Pennsylvania	20.30%	41.86%	11.65%	0.00%	3.43%	0.00%	22.28%	0.48%
Rhode Island	16.88%	33.31%	2.75%	0.00%	0.28%	8.23%	38.54%	0.00%
Texas	38.87%	33.82%	0.75%	0.34%	1.16%	6.02%	17.72%	1.33%
Average	24.28%	29.12%	6.64%	2.83%	3.36%	9.86%	23.26%	0.65%
Standard Deviation	12.23%	7.33%	6.89%	3.90%	2.27%	9.98%	7.15%	1.03%

Source: Compiled from FHWA Tables MF1 and MF21, 1997.

Table 4.4 groups the revenue sources as a comparative to Kentucky's bordering states. As evidenced in Table 4.4, this grouping of border states generates little uniformity in terms of fee receipts (standard deviation is 9% now, as compared to 12%, 11%, and 8% for Census regions.) Fuel taxation is not improved either at 7.75% standard deviation, a similar result found in the other groupings.

Examining the percentage of revenue collected by states for specific sources will provide an illustration of the degree of non-uniformity among states. Although fee receipts ranks third nationally (22%) as an income generating source, California (48%), Washington (43%), and the District of Columbia (42%) use fees as its primary source for income. Alaska relies on fees the least of all states; only seven percent of its revenue is obtained from fee receipts.

**Table 4.4: Breakdown of FHWA 1997 Revenue Sources by Border States**

RPC	Total Fee Receipts	Total Fuel Tax Receipts	Road and Crossing Tolls	Other Imposts and General Funds	Miscellaneous Income	Bond Proceeds	Federal Government	Local Governments
Kentucky	40.55%	30.62%	0.91%	0.00%	7.53%	0.00%	20.32%	0.06%
Illinois	24.15%	36.80%	9.74%	2.47%	2.08%	3.50%	20.28%	0.98%
Indiana	15.73%	44.94%	4.68%	0.00%	1.86%	0.00%	30.72%	2.07%
Missouri	17.44%	40.24%	0.00%	11.29%	2.95%	0.00%	27.55%	0.54%
Ohio	17.97%	41.48%	3.52%	0.90%	1.85%	13.54%	19.97%	0.77%
Tennessee	14.96%	50.31%	0.01%	6.69%	0.75%	0.00%	25.50%	1.79%
Virginia	29.22%	29.16%	2.88%	18.11%	2.58%	1.91%	14.97%	1.16%
West Virginia	23.30%	29.67%	4.09%	2.93%	1.81%	0.00%	38.17%	0.02%
Average	22.92%	37.90%	3.23%	5.30%	2.68%	2.37%	24.69%	0.92%
Standard Deviation	8.63%	7.75%	3.20%	6.45%	2.06%	4.70%	7.39%	0.74%

Source: Compiled from FHWA Tables MF1 and MF21, 1997.

Fuel taxation leads the nation at 34% for income generating sources. The heaviest user of this source of revenue is North Carolina, which derives 53% of its revenue from fuel taxation. Alaska, again, is the lowest user; income from this category is only five percent for the state. States bordering Kentucky exhibit a lack of conformity in terms of the fuel receipt / tax receipt composition, although the expectation would be that they would be similar. Illinois, for example, derives 37% of its income from fuel taxation while 24% is obtained from fees. Indiana features a similar make-up: 45% fuel taxation, 16% fees. Missouri, like Indiana, receives 40% from fuel taxes, 17% for fees. Ohio is

similar to both Indiana and Missouri, deriving 41% fuel tax, 18% fees. Tennessee derives 50% of its income from fuel taxation while 24% is obtained from fees. Virginia is split evenly between fuel and fees: 29% for each category, while West Virginia derives 30% from fuels and 23% from fees. Kentucky is very similar to Virginia and West Virginia with respect to fuel taxation at 31%, however; differs substantially from its bordering states in fees at 41% as shown in Table 4.4.

Federal government funding ranks second nationally (27%) as an income generating source. The highest user of federal government funding is Wyoming, which obtains 61% of its income from this source, while Louisiana obtains only 13% from federal government funding, the least out of all states. The range of non-uniformity in funding grows greater if we examine detailed breakdowns of fuel and fee income sources. Table 4.5 provides a breakdown of registration fees. There are two broad categories of fees: vehicle registration fees and other fees. The Other Fee category actually comprises a myriad of fees, but the most common are listed in the Table 4.6.

**Table 4.5: FHWA Breakdown of Registration Fees 1997**

STATE	REGISTRATION FEES				
	Motor Vehicles			Other Vehicles	
	Automobiles including Taxis	Buses	Trucks and Truck Tractors	Trailers	Motorcycles
Alabama	2.04%	0.11%	20.88%	1.11%	0.24%
Alaska	38.38%	1.34%	30.82%	6.96%	0.87%
Arizona	9.26%	0.05%	24.96%	1.60%	0.30%
Arkansas	19.45%	0.10%	25.35%	4.06%	0.09%
California	55.73%	0.20%	31.17%	6.07%	0.71%
Colorado	31.84%	0.05%	25.99%	1.09%	0.45%
Connecticut	45.56%	1.24%	9.62%	0.91%	0.30%
Delaware	13.12%	0.28%	7.49%	1.49%	0.08%
Dist. of Col.	25.88%	0.94%	3.84%	0.14%	0.08%
Florida	24.68%	0.14%	13.74%	1.91%	0.22%
Georgia	41.91%	0.05%	26.82%	3.75%	0.59%
Hawaii	65.84%	0.65%	14.95%	3.49%	0.78%
Idaho	17.26%	0.07%	15.90%	1.75%	0.32%
Illinois	45.78%	0.07%	24.50%	2.11%	0.74%
Indiana	17.00%	0.10%	52.46%	2.64%	0.57%
Iowa	53.69%	0.07%	28.76%	1.44%	0.49%

**Table 4.5: Continued**

STATE	REGISTRATION FEES				
	Motor Vehicles			Other Vehicles	
	Automobiles including Taxis	Buses	Trucks and Truck Tractors	Trailers	Motorcycles
Kansas	28.00%	0.31%	47.27%	3.20%	0.49%
Kentucky	3.43%	0.00%	4.15%	0.19%	0.05%
Louisiana	18.35%	0.30%	18.62%	2.48%	0.08%
Maine	25.47%	0.05%	17.75%	10.03%	0.61%
Maryland	12.84%	0.10%	4.75%	0.59%	0.13%
Massachusetts	23.93%	0.15%	24.93%	3.89%	0.62%
Michigan	53.06%	0.05%	22.52%	3.13%	0.37%
Minnesota	62.89%	0.10%	27.33%	1.08%	0.23%
Mississippi	23.83%	0.05%	21.77%	1.46%	0.36%
Missouri	30.24%	0.24%	41.35%	2.43%	0.17%
Montana	12.80%	0.05%	9.97%	2.84%	0.26%
Nebraska	21.36%	0.17%	41.95%	1.17%	0.21%
Nevada	39.12%	0.28%	16.89%	2.40%	0.90%
New Hampshire	24.75%	0.10%	23.79%	1.35%	0.67%
New Jersey	29.00%	0.26%	8.44%	0.68%	0.14%
New Mexico	13.07%	0.02%	12.45%	0.71%	0.16%
New York	31.48%	0.16%	9.21%	1.55%	0.15%
North Carolina	23.30%	1.27%	27.29%	1.50%	0.16%
North Dakota	39.61%	0.14%	33.58%	2.49%	0.70%
Ohio	39.83%	0.13%	23.90%	2.55%	0.62%
Oklahoma	61.84%	0.01%	11.09%	1.35%	0.68%
Oregon	9.49%	0.09%	8.37%	2.54%	0.10%
Pennsylvania	29.38%	0.29%	34.63%	1.28%	0.36%
Rhode Island	27.01%	0.02%	14.39%	0.63%	0.35%
South Carolina	22.58%	0.14%	32.93%	0.79%	0.31%
South Dakota	24.32%	0.18%	53.35%	3.86%	0.38%
Tennessee	24.60%	0.05%	27.87%	17.76%	0.35%
Texas	15.31%	0.06%	11.21%	1.38%	0.16%
Utah	16.40%	0.07%	22.97%	2.25%	0.49%
Vermont	18.22%	0.02%	10.08%	1.07%	0.31%
Virginia	4.48%	0.01%	1.97%	0.13%	0.07%
Washington	57.71%	0.03%	30.68%	1.89%	0.64%
West Virginia	12.39%	0.00%	16.40%	1.24%	0.06%
Wisconsin	42.61%	0.08%	34.04%	1.15%	1.09%
Wyoming	9.82%	0.08%	64.67%	4.91%	0.37%

Statistics	Autos	Buses	Trucks	Trailers	Motorcycles
Average	28.23%	0.21%	22.94%	2.52%	0.38%
Median	24.68%	0.10%	22.97%	1.60%	0.35%

Source: Compiled from FHWA Tables MV1, MV7, MV9, MV10 and MV11, 1997.

It should also be noted from Table 4.6 that fees inject the most unique aspects to state funding out of the other eight categories. The average values for most of the fee

categories listed is close to zero, implying that few states actually engage in imposing them. Frequency of incidence by state is usually ten or less, again illustrating the random, or non-standard, nature of these revenue sources. For the nation, the highest source of fee revenue is automobile registration, at 28% of all fee collections. Truck fees come in second at 23%, while Miscellaneous fees comprise 20%. These miscellaneous fees are quite numerous, and it would be futile to attempt to list them all.

**Table 4.6: FHWA Breakdown Other Fees 1997**

STATE	OTHER FEES									
	Drivers Licenses	Certificate or Title Fees	Special Title Taxes	Fines and Penalties	Est. Service Charges, Local Collections	Special License Fees & Franchise Taxes				Certificate or Permit Fees
						Carrier Gross Receipt Taxes	Mile Tax, Tonmile Tax and Passenger Mile Tax	Weight or Capacity	Flat Rate	
Alabama	10.51%	10.83%	0.00%	0.00%	2.91%	0.00%	0.04%	0.00%	0.00%	0.31%
Alaska	8.66%	3.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Arizona	6.78%	2.13%	0.00%	2.86%	0.00%	0.00%	29.38%	0.00%	3.67%	0.00%
Arkansas	7.65%	2.69%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
California	2.08%	0.00%	0.00%	0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	0.08%
Colorado	6.76%	3.70%	0.00%	0.00%	1.88%	0.00%	0.00%	0.00%	0.00%	0.00%
Connecticut	9.68%	7.28%	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	2.05%	0.00%
Delaware	27.37%	4.78%	0.00%	1.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Dist. of Col.	3.52%	2.79%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Florida	4.16%	12.23%	0.00%	1.44%	4.22%	0.00%	0.00%	0.00%	0.03%	0.00%
Georgia	8.59%	15.45%	0.00%	0.41%	3.37%	0.00%	0.00%	0.00%	0.06%	0.07%
Hawaii	4.37%	0.00%	0.00%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Idaho	7.48%	3.97%	0.00%	2.16%	3.91%	0.00%	32.96%	0.00%	0.00%	0.23%
Illinois	3.86%	4.78%	0.00%	0.75%	0.00%	0.07%	0.00%	0.00%	0.75%	0.00%
Indiana	2.35%	3.06%	0.00%	1.09%	0.00%	0.00%	0.00%	0.00%	0.83%	0.05%
Iowa	3.99%	3.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.27%
Kansas	3.11%	3.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.38%	0.01%
Kentucky	1.56%	0.48%	55.86%	0.00%	3.49%	0.00%	11.43%	0.00%	0.17%	3.32%
Louisiana	5.76%	9.12%	0.00%	0.00%	0.00%	2.93%	0.00%	0.00%	6.21%	0.01%
Maine	8.58%	4.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.32%	0.05%
Maryland	2.44%	2.05%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Massachusetts	8.82%	22.24%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.84%	0.05%
Michigan	2.87%	5.38%	1.21%	0.00%	1.43%	0.00%	0.00%	0.00%	0.00%	1.03%
Minnesota	3.56%	0.94%	0.00%	1.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.84%
Mississippi	8.28%	3.02%	0.00%	2.70%	0.00%	0.00%	0.00%	0.00%	3.37%	0.00%
Missouri	4.86%	6.31%	0.00%	4.72%	0.00%	0.00%	0.00%	0.00%	0.94%	0.00%
Montana	8.45%	2.20%	0.00%	0.00%	0.00%	0.00%	0.00%	31.47%	0.00%	10.52%

**Table 4.6: Continued**

STATE	OTHER FEES									
	Drivers Licenses	Certificate or Title Fees	Special Title Taxes	Fines and Penalties	Est. Service Charges, Local Collections	Carrier Gross Receipt Taxes	Mile Tax, Tonmile Tax and Passenger Mile Tax	Weight or Capacity	Flat Rate	Certificate or Permit Fees
Nebraska	4.87%	6.68%	0.00%	0.75%	0.00%	0.00%	0.00%	0.00%	0.62%	0.04%
Nevada	7.44%	7.92%	0.00%	2.31%	7.69%	0.00%	0.00%	0.00%	0.00%	0.00%
New Hampshire	9.45%	6.47%	0.00%	14.67%	0.00%	0.00%	0.00%	0.00%	0.00%	3.44%
New Jersey	3.65%	9.70%	0.25%	5.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.75%
New Mexico	1.88%	0.97%	36.15%	0.41%	0.00%	0.00%	23.29%	0.00%	0.33%	1.39%
New York	12.30%	2.25%	0.00%	7.74%	0.00%	0.00%	18.47%	0.00%	0.00%	0.62%
North Carolina	7.51%	13.54%	0.00%	1.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
North Dakota	3.07%	2.29%	0.00%	0.71%	0.01%	0.00%	0.13%	0.00%	0.00%	5.09%
Ohio	2.64%	2.34%	0.00%	0.15%	4.90%	0.43%	0.00%	0.00%	0.00%	0.00%
Oklahoma	2.27%	3.72%	1.61%	0.90%	3.43%	0.00%	0.01%	0.00%	0.59%	0.05%
Oregon	3.20%	3.85%	0.00%	0.28%	0.00%	0.00%	56.84%	3.54%	0.00%	0.00%
Pennsylvania	8.03%	6.92%	0.00%	4.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Rhode Island	6.55%	5.52%	0.00%	19.79%	0.00%	0.00%	0.00%	0.00%	3.85%	0.18%
South Carolina	8.90%	8.08%	0.19%	3.22%	0.00%	0.00%	0.04%	0.07%	0.00%	0.00%
South Dakota	3.52%	3.28%	0.00%	0.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Tennessee	10.27%	5.04%	0.00%	0.10%	5.92%	0.00%	0.00%	0.00%	3.07%	0.00%
Texas	2.74%	2.01%	64.39%	0.06%	0.00%	0.00%	0.00%	0.01%	0.20%	0.05%
Utah	8.51%	5.81%	0.00%	0.63%	0.00%	0.00%	0.00%	6.06%	0.00%	0.00%
Vermont	3.26%	2.24%	51.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Virginia	2.35%	2.66%	33.60%	0.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.73%
Washington	1.80%	0.15%	0.08%	1.05%	1.92%	0.09%	0.00%	0.00%	0.00%	0.02%
West Virginia	2.50%	2.10%	58.48%	0.00%	0.00%	0.40%	0.00%	1.01%	0.00%	0.02%
Wisconsin	4.47%	2.42%	0.00%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.92%
Wyoming	4.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.11%	0.00%

Statistics	Drv. Lic.	Title Fee	Spec. Title Fee	Fines/Pen.	Loc. Coll.	Carrier	Mile Tax	Weight	Flat Rate	Permit
Average	5.93%	4.82%	5.96%	1.68%	0.88%	0.08%	3.38%	0.83%	0.66%	0.59%
Median	4.86%	3.56%	0.00%	0.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%
Standard Deviation	4.18%	4.26%	16.76%	3.60%	1.81%	0.42%	10.59%	4.49%	1.35%	1.72%

Source: Compiled from FHWA Tables MV1, MV7, MV9, MV10 and MV11, 1997.

Looking under the Other Fee classification (Table 4.6) will provide some illustration of the extent of non-uniformity in revenue collection. One example is a driver's license fee, which yields 6% in revenue collection for the nation. Delaware, however, receives 27% of its fee revenue from this source; New York receives 11%,

while California receives only 2%. Most states, however, do receive some amount of revenue from this source. The Special Title Fees, on the other hand is used by only eleven states. This fee source includes a myriad of fees and tax sources. In Kentucky this category is the Usage Tax on motor vehicles; in Michigan this category is the Commemorative Plates Fee; in New Jersey this category is a Corrections Fee; in New Mexico this category is the Motor Vehicle Excise Tax; in Oklahoma this category is Title Lien Fees; in South Carolina this category is the Certificate of Compliance Fee; in Texas this category is the Motor Vehicle Sales Tax; in Vermont this category is the Purchase and Use Tax; in Virginia this category is the Sales and Use Tax; in Washington this category is an Application Fee; and in West Virginia this category is the Certificate of Title Tax. Fines and Penalties are used by about 24 states (at least rounded to 1% of revenue earnings) with the average at about 2%. Rhode Island leads all states in utilizing this particular source at 20% and New Hampshire follows at 15%. All other states show less than 10%, with most showing only 2% to 3% of total fee collection deriving from this source.

Fuel taxation is another principle source of income for most states. Two broad categories of fuel taxation are diesel and gasoline. As with all income sources, reliance on either type depends upon the state. Table 4.7 presents state revenue details and Appendix A indicates the 1999-taxing scheme for motor fuels. Average values show that gasoline is the greatest source of fuel taxation revenue across all states. Nearly 80% of all fuel tax revenue is obtained from gasoline taxation. Almost 20% is obtained from diesel fuel taxation. The highest value of diesel fuel taxation is 42% and occurs in Wyoming.

**Table 4.7: FHWA Breakdown of Motor Fuels Revenue 1997**

State	Diesel Revenue	Gasoline Revenue
Alabama	22.91%	77.09%
Alaska	15.76%	84.24%
Arizona	28.03%	71.97%
Arkansas	28.31%	71.69%
California	13.55%	86.45%
Colorado	12.58%	87.42%
Connecticut	6.96%	93.04%
Delaware	13.71%	86.29%
Florida	21.95%	78.05%
Georgia	23.94%	76.06%
Hawaii	9.28%	90.72%
Idaho	24.20%	75.80%
Illinois	16.84%	83.16%
Indiana	27.52%	72.48%
Iowa	26.25%	73.75%
Kansas	23.52%	76.48%
Kentucky	20.81%	79.19%
Louisiana	19.12%	80.88%
Maine	18.47%	81.53%
Maryland	14.41%	85.59%
Massachusetts	11.03%	88.97%
Michigan	14.53%	85.47%
Minnesota	17.77%	82.23%
Mississippi	22.27%	77.73%
Missouri	20.69%	79.31%
Montana	23.17%	76.83%
Nebraska	29.04%	70.96%
Nevada	25.48%	74.52%
New Hampshire	9.46%	90.54%
New Jersey	15.58%	84.42%
New Mexico	27.86%	72.14%
New York	14.66%	85.34%
North Carolina	18.20%	81.80%
North Dakota	28.03%	71.97%
Ohio	21.21%	78.79%
Oklahoma	19.74%	80.26%
Oregon	17.65%	82.35%
Pennsylvania	19.78%	80.22%
Rhode Island	10.44%	89.56%
South Carolina	18.67%	81.33%
South Dakota	28.33%	71.67%
Tennessee	19.30%	80.70%
Texas	18.42%	81.58%
Utah	22.40%	77.60%
Vermont	23.50%	76.50%

<b>Table 4.7: Continued</b>		
Statistics	Diesel Revenue	Gasoline Revenue
Virginia	17.35%	82.65%
Washington	15.56%	84.44%
West Virginia	14.11%	85.89%
Wisconsin	20.35%	79.65%
Wyoming	42.21%	57.79%
Mean	19.90%	80.10%
Minimum	6.96%	57.79%
Maximum	42.21%	93.04%

Source: Compiled from FHWA Tables MF1, MF2, MF21 and MF121T, 1997.

### **Kentucky Compared to the Nation**

Kentucky relies heavily on fee receipts which includes a number of fees, predominately the usage tax, for its source of income: 41% of its income derives from this source, which ranks among the highest out of all other states. The second greatest source of revenue for the Commonwealth is fuel taxation, which comprises 31% of Kentucky's revenue and is slightly below the average for the nation. The federal government provides 20% of Kentucky's road funding, which is slightly below the national average of 27%. The majority of the states that border Kentucky rely more heavily on federal government funding than does the Commonwealth. Ohio and Virginia are the only exceptions. Kentucky receives negligible amounts of income from tolls, other imposts and general funds, bond proceeds and general funds. This is generally consistent with averages for the nation.

Kentucky obtains the majority of its fee receipts from special title taxes, which comprise 58% of all the state's fee receipts. The average amount of this category for the nation is seven percent; thus the Commonwealth ranks among the higher users of this fee. In fact, only nine other states use this category to any substantial degree, with Texas being the greatest user, at 64%. Miscellaneous receipts are the second greatest

contributor in Kentucky's fee revenues, at 15%, while the mile tax and ton-mile tax ranks third for the state, at 11%. This last tax is used by only five other states: Arizona (29%), Idaho (33%), New Mexico (23%), New York (18%) and Oregon (57%). It is interesting to note that while many states obtain a substantial amount of their revenue from vehicle registration (28% auto, 23% trucks), Kentucky derives only three percent of its fee income from automobile registration and four percent from truck registration.

For fuel taxation, Kentucky is very close to national averages. The Commonwealth receives 79% of its fuel tax revenue from gasoline taxes and 21% from diesel taxes. States that border Kentucky deviate only slightly from the 80/20 ratio.

### **Collection System and Sources by U.S. Region**

Although the Commonwealth differs only slightly from national averages in many revenue source categories, regional difference may be observed. Regional differences have a greater impact on the Commonwealth, due to the physical mobility of taxpayers, and are therefore assessed in this section. This section uses the United States Census Bureau identification to break the fifty states and the District of Columbia into four regions<sup>16</sup>, the northern, mid-western, southern and western. An overview is provided for each region; however, a detailed narrative that indicates the breakdown of each common revenue source is provided in Appendix B.<sup>17</sup>

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<sup>16</sup> The states in each region are as follows: 1) Northern Region includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; 2) Midwestern Region includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; 3) Southern Region includes Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, Washington, D.C., and West Virginia; 4) Western Region includes Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming.

<sup>17</sup> Each state designated is listed separately in Appendix B to provide a complete and accurate analysis of the movement of funds from collection to apportionment to expenditure. The information included in this

To provide for an analysis of the sources of revenues used by each region, taxes and/or fees identified as common to at least 75% of states within the region are included in an accompanying flow chart. When comparing the four regions, four common motor vehicle fees and taxes are shared by a majority of the states. These common fees and taxes are registration fees, operator, chauffeur, motor carrier driver's license fees, certificate of title fees, and the motor fuel tax. The motor fuels tax is common to all states and the District of Columbia and is described in Chapter 3 and Appendix A of this report. Therefore, motor fuels tax is not described in the regional summaries.

The common taxes and/or fees are credited to three accounts: highway/transportation fund, general fund, or "other" fund. "Other"<sup>18</sup> includes a variety of fund accounts that are not designated individually. The highway/transportation fund and the "other" fund are the most common funds credited with road user taxes and fees for all the regions.

### **Region 1: Northern Region**

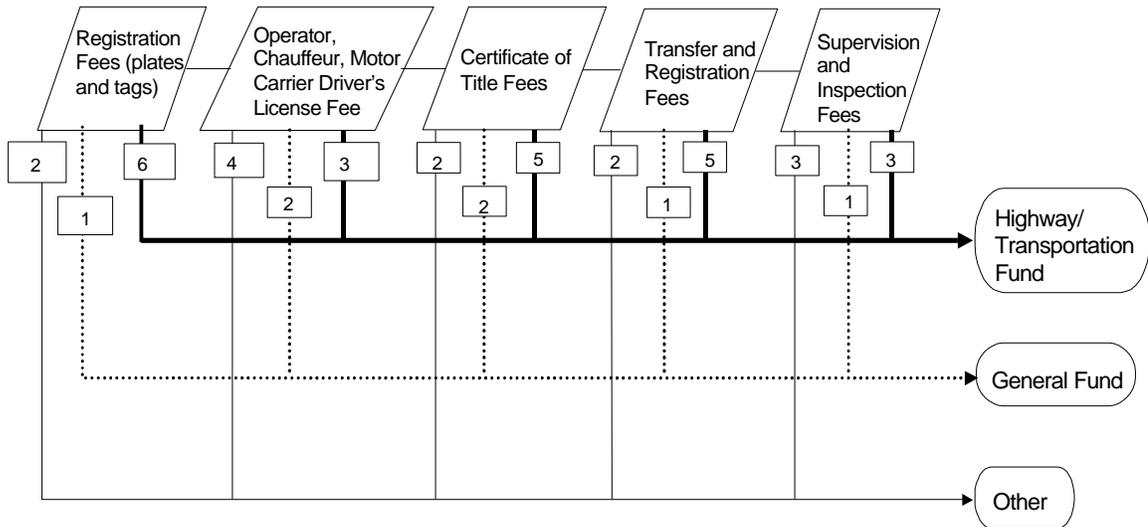
The Northern region consists of the states of Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont. Of these nine states at least seven states use the five common motor vehicles taxes and fees listed in Diagram 1. Although these five types of taxes/fees are consistent between these states, the allocation of the collected fees and taxes differs greatly.

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narrative is based upon the table drawn from alternative legal sources, including statutory data, and the legislative summaries provided by each state to the FHWA. It is as comprehensive as possible, based on the information available to the authors.

<sup>18</sup> For this report, "Other" fund includes Motor License Fund, Dedicated Highway and Bridge Trust Fund, Highway Safety Fund, Driver Training Fund, and other similar funds. Since these funds are listed separately from a Highway/Transportation Fund they are considered as unique fund accounts.

**Diagram 1: Northern Region Common Motor Vehicle Fees and Taxes**



For example, six of nine states credit registration fees to a highway/transportation fund, two of the nine states credit a fund designated as “other”, while only one state, Rhode Island, credits the general fund with these proceeds. Similarly, supervision and inspection fees are credited by three states to the highway/transportation fund, by three states to a fund designated as “other” and by only one state to the general fund. Supervision and inspection fees are not utilized as a tax/fee source by two states (Massachusetts and Vermont) in the Northern Region. An interesting aspect of this region is the State of Rhode Island, which allocates all common taxes and fees to the state general fund.

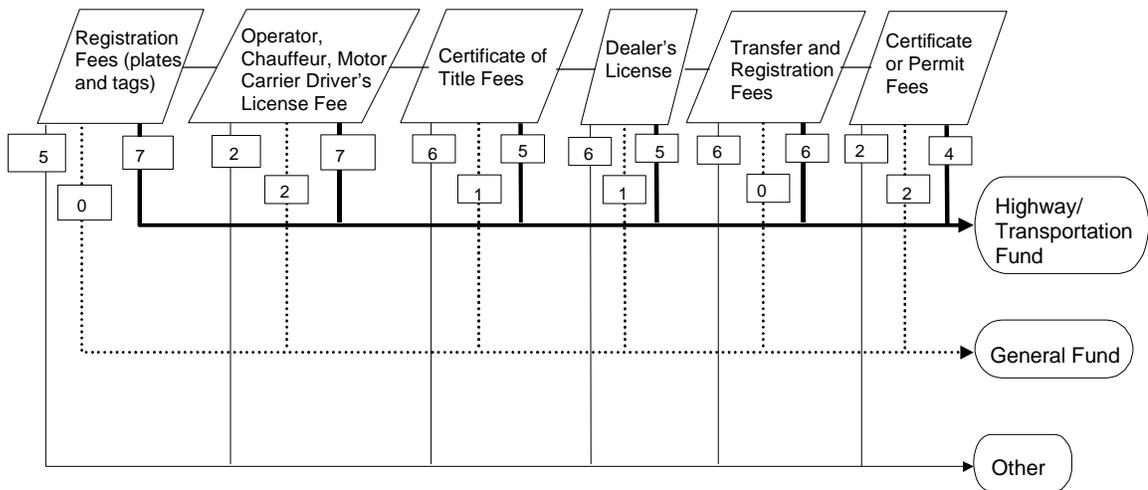
**Region 2: Midwestern Region**

The Midwestern region includes the states of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. Of these twelve states at least eight states use the six common motor vehicles taxes and fees listed in Diagram 2. The diagram indicates that eleven of the twelve states use five of the common fees and taxes while only eight states use the fee source entitled

certificate or permit fees. As noted in Diagram 2, these six types of taxes/fees are allocated to different funds.

For example, all twelve of the Midwestern Region states apply registration fees and transfer and registration fees to either a highway/transportation fund or a fund designated as “other”. The allocation of these two fee sources is identical to the Northern Region if the State of Rhode Island, which allocates all common taxes and fees to the general fund, is excluded.

**Diagram 2: Midwestern Region Common Motor Vehicle Fees and Taxes**



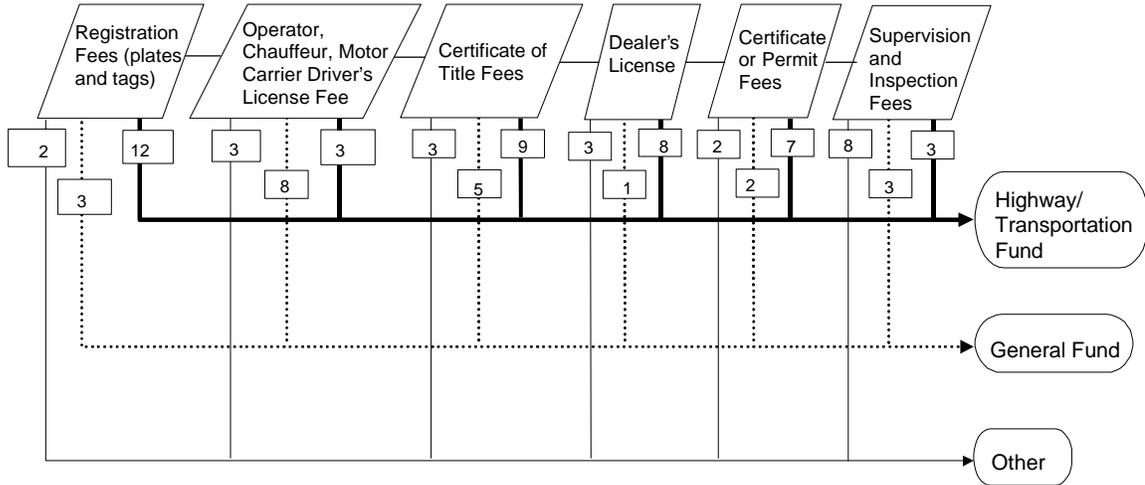
The Midwestern and Northern Regions share five common motor vehicle fees and taxes. The additional common fee for these two regions is the transfer and registration fee. This fee source is not common in either the Southern or Western regions.

**Region 3: Southern Region**

The Southern Region consists of sixteen states and the District of Columbia. The states in this region are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Of these sixteen states and the District of Columbia at least eleven use the six common motor vehicles taxes and fees listed in

Diagram 3. The diagram indicates that only two of the seven fees and taxes, registration fees and certificate of title fees, are used by all sixteen states and the District of Columbia.

**Diagram 3: Southern Region Common Motor Vehicle Fees and Taxes**

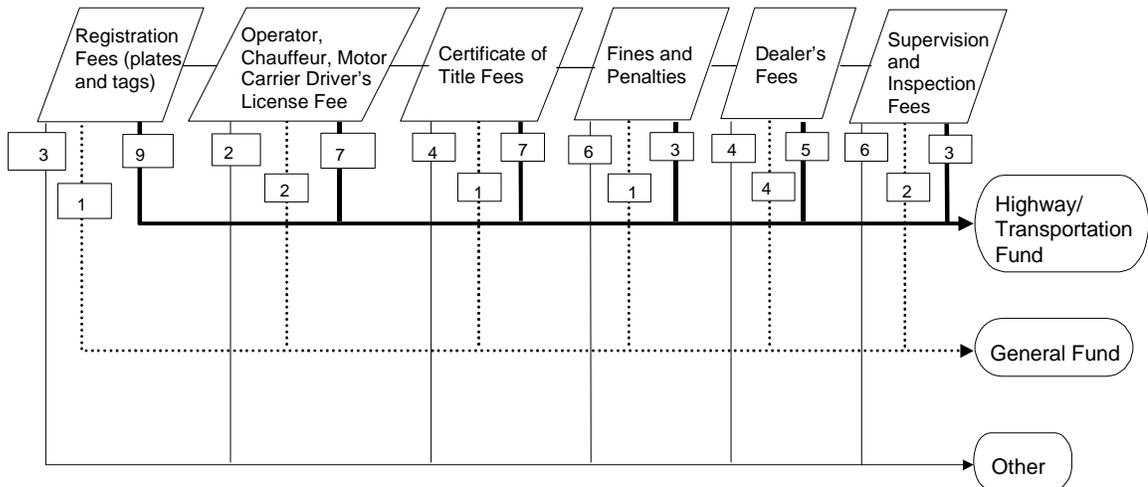


The diagram and the detailed narrative in Appendix B illustrate the diversity of this group of states. For example, five of the six common fees and taxes are used by the State of Georgia. All proceeds from these five sources are allocated to the general fund. This occurrence is similar for the District of Columbia. All six fees and taxes used by the District are allocated to the general fund. This is in sharp contrast to the states of Delaware, North Carolina, and West Virginia who allocate all common fees and taxes collected to the highway/transportation fund.

**Region 4: Western Region**

There are thirteen states that comprise the Western Region. These states are Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming. Of these thirteen states, at least ten use the six common motor vehicles taxes and fees listed in Diagram 4. The diagram indicates that only two of the six fees and taxes, registration fees and dealer's fees, are used by all

**Diagram 4: Western Region Common Motor Vehicle Fees and Taxes**

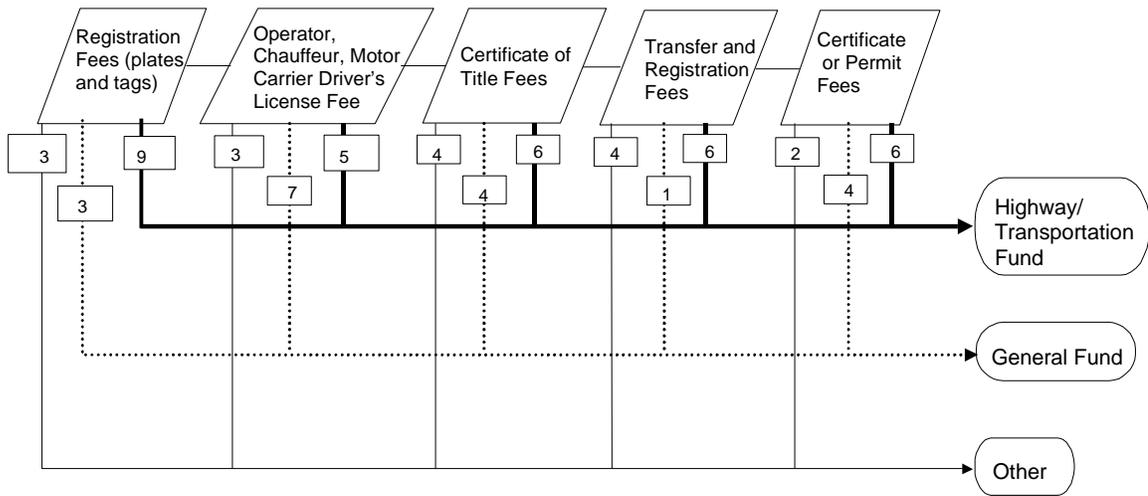


thirteen states. The diagram and the detailed narrative in Appendix B illustrate the diversity of this group of states. For example, all proceeds from these six sources are allocated to the general fund in the State of Alaska. This is in sharp contrast to the states of Nevada, Oregon, and Wyoming who allocate all six of these common fees and taxes collected to the highway/transportation fund.

**Collection System and Sources of the Regional Processing Center States**

The Regional Processing Center (RPC) is a consortium of states that organized to reduce administrative costs associated with the International Fuel Tax Agreement (IFTA) legislation. The members of the RPC include the states of California, Connecticut, Delaware, Georgia, Kentucky, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, Pennsylvania, Rhode Island, and Texas. The RPC is a unique group of states representing all four U.S. Census Bureau regions.

**Diagram 5: Regional Processing Center (RPC) Common Motor Vehicle Fees and Taxes**

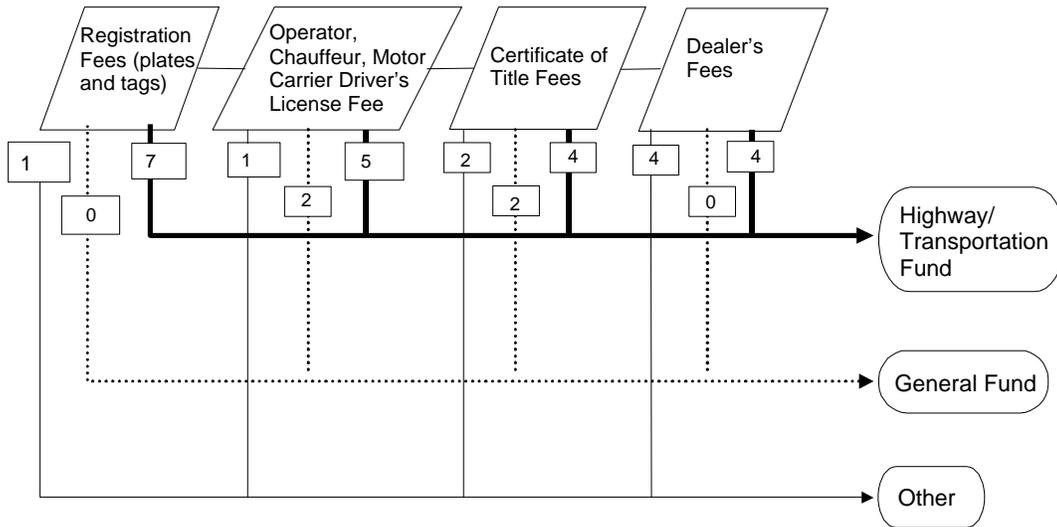


Of the fifteen states that comprise the RPC, at least eleven use the five common motor vehicles taxes and fees listed in Diagram 5. The diagram indicates that only two of the five fees and taxes, registration fees and operator, chauffeur, motor carrier driver's license fee, are used by all fifteen states in the RPC. To provide an analysis of the two common sources used by these fifteen states, registration fees and operator, chauffeur, motor carrier driver's license fees are listed by individual state.

**Collection System and Sources of Kentucky's Border States**

There are seven states that border the Commonwealth of Kentucky. These states include Illinois, Indiana, Missouri, Ohio, Tennessee, Virginia, and West Virginia. These border states may provide a better look at conformity within road fund administration. Of these eight states, at least six use the four common motor vehicles taxes and fees listed in Diagram 6. The diagram indicates that all four of the and taxes; Registration Fees, Operator, Chauffeur, Motor Carrier Driver's License Fee, Certificate of Title Fees, and Dealer's Fees, are used by all eight states.

**Diagram 6: Kentucky's Border States Common Motor Vehicle Fees and Taxes**



The diagram and the detailed narrative in Appendix B illustrate the diversity of the border states. For example, all proceeds from these four sources are allocated to the highway/transportation fund in the states of Missouri and West Virginia. This is in sharp contrast to the state of Ohio who allocates three of these four common fees and taxes collected to the “other” fund.

**Summary**

This chapter has focused on the unique aspects of road fund collections. Across all states, fuel taxation leads income generating sources at 34%, federal government funding follows at 27%, and fees receipts rank third at 22%. We have attempted to find uniformity in the collection process within the states by assessing these FHWA categories of road fund collections. We broke down the states into regions, the RPC, and Kentucky's border states, finding little evidence of conformity within these state groupings. This finding was consistent with our federalist system. Our system allows each state to assess and collect taxes and fees according to its own particular

circumstances and objectives. Although little conformity was found in the major FHWA categories, conformity, although limited, was found when the general category entitled fee receipts was broken down.

Fee receipts nationally rank third (avg. = 22%) for total road fund revenue; however, Kentucky is heavily reliant on this source. In Kentucky, approximately 41% of total road fund revenues came from this source in 1997. Through an investigation of each states legislative acts and FHWA breakdowns of this general revenue source, some uniformity was found among the states by region. In particular, the Southern, Western and Northern Regions share four common fee receipts. The common fees for these three regions are registration fees; operator, chauffeur, motor carrier license fees; certificate of title fees; and supervision and inspection fees.

The breakdown of fee receipts by region shows that Kentucky is comparable to its regional states and the states that comprise the Western and Northern Regions.

Accompanying these findings was a breakdown of fee receipts within the RPC states.

When compared to the RPC states, Kentucky has the lowest registration fees. The average fee for an automobile was \$26.39<sup>19</sup> as compared to Kentucky whose flat registration fee is \$14.50. With respect to the other common fees and taxes of the RPC states, Kentucky differed little from these states.

The final breakdown of fee receipts was a comparative of Kentucky to its seven bordering states as illustrated in Diagram 6. This grouping did little to improve comparability of these states. The border states only had four fees in common, a reduction of at least one fee from the regional and RPC groupings. Although the border

states had only four fees that were similar, all eight states had these fees. With respect to registration fees, the border state average was \$28.41. Table 4.8 shows the registration fees for the border states for automobiles of 4,000 pounds or less in the first column and automobiles over 4,000 pounds in column two. This breakdown is used since the State of Virginia uses this classification while the other states use a flat fee system for all automobiles. The third column shows the average number of automobiles registered in each state for the time period 1997 through 1999.

Table 4.8 indicates that Kentucky's fee structure for automobile registrations is the second lowest in the border states.

<b>Table 4.8: Border States Registration Fees 1997-1999</b>			
State	Registration Fee <4001 pounds	Registration Fee >4001 pounds	Average Auto Registrations
Illinois	\$48.00	\$48.00	6,132,583
Indiana	12.75	12.75	3,226,302
Kentucky	14.50	14.50	1,625,614
Missouri	51.00	51.00	2,576,516
Ohio	21.50	21.50	6,628,590
Tennessee	23.00	23.00	2,668,765
Virginia	26.50	31.50	3,689,947
West Virginia	30.00	30.00	747,386
AVERAGE	\$28.41	\$29.03	

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<sup>19</sup> Three states within the RPC, Michigan, Texas and New York, have variable registration fees for automobiles. Therefore, the average registration fee for the RPC was calculated using the lowest fee offered by these three states. The fees are \$29.00, \$40.80, and \$17.25, respectively.

## **Chapter 5: Road Fund Auditing, Assessment, and Enforcement**

Auditing, assessment, and civil/criminal prosecution for understating tax liabilities are the three principle means available to road fund administrators to insure compliance with state road fund tax laws. Of the three actions, tax audits are the critical step as they determine tax liabilities, facilitate assessments and provide the basis for possible criminal prosecution for non-compliance with state road fund tax laws. Audits provide accurate data on fuel use, mileage driven and the number of trucks in a fleet, which are the main determinants of tax liability. Such data are critical to the determination of assessments and provide the legal basis for further legal action if appropriate.

Audit effectiveness can be enhanced through an optimal combination of penalties and audit frequencies. Such a combination may include higher penalties combined with less frequent audits due to the cost of field audits but law or social convention may prohibit penalty levels required to encourage compliance. Therefore, states may need to pursue a strategy of increased audit frequency to offset the behavioral impact of minimum penalties for underreporting. Audit effectiveness can also be improved by establishing audit frequencies by audit or carrier class. Historical trends and benchmark data can assist in determining optimal frequency by class.

The auditing/enforcement function is further complicated by the fact that it is often difficult to distinguish between "intended" underreporting and non-compliance and "honest mistakes" in the tax payment process. Issues of appropriate penalties, appropriate actions by the audit staff and follow-up may differ based on the intent of taxpayer in not fulfilling tax payment responsibilities. However, for this study, the

assumption is made that the non-complying tax payer is "intentionally" avoiding tax payments and the goal of the tax administrator is to utilize available data to design an optimal audit strategy which will maximize state road fund revenue.

To explore the affect that enforcement, auditing, and assessments have on road fund revenue compliance this chapter derives a statistical model. This model looks at the relationship between the number of auditors, the enforcement cabinet or agency, the total number of registered trucks, the tax levy of fuels, and the federal support in road fund revenues with respect to compliance behavior in road fund revenue collection.

**Audit, Assessment and Enforcement**

To explore the affect of audit, assessment and enforcement, the Kentucky Transportation Center with assistance from the Martin School of Public Policy and Administration sent out an electronic survey to road fund tax administrators in the fifty states and Washington D.C. The survey asked the questions listed in Table 5.1. The

<b>Table 5.1: Survey Questions</b>
Question 1: What was the total amount of assessment (defined as total tax due per audit less the amount reported by the taxpayer with the original return) due to audits, of all taxpayers combined, of road/highway revenue funds (i.e., motor fuels taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1997?
Question 2: What was the total amount of assessment (defined as total tax due per audit less the amount reported by the taxpayer with the original return) due to audits, of all taxpayers combined, of road/highway revenue funds (i.e., motor fuels taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1998?
Question 3: How many auditors are currently in your cabinet/division (for all types of audits)?
Question 4: How many office or desk auditors were assigned to road/highway revenue funds (i.e., motor fuel taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1997?
Question 5: How many office or desk auditors were assigned to road/highway revenue funds (i.e., motor fuel taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1998?
Question 6: How many field auditors were assigned to road/highway revenue funds (i.e., motor fuel taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1997?
Question 7: How many field auditors were assigned to road/highway revenue funds (i.e., motor fuel taxes, motor carrier fees, IFTA, IRP) audits in fiscal year 1998?

response rate was 48 of 51 respondents or 94%. Of these 48 returned surveys, 44 had complete information for fiscal year 1997 and 13 had complete information for fiscal year 1998. Using Table 5.1, the goal of Question 1 and Question 2 are to obtain the amount of tax due through assessments for the two fiscal years without influencing this amount by differentials in penalty and interest used by each individual state. Therefore, the data obtained through these two questions reflects only what the taxpayer evaded. The remaining questions reflect the number of personnel assigned to the cabinet or division for auditing and the number of desk and field auditors assigned to the road/highway fund. Table 5.2 shows the number of states that responded per question on the survey.

Question	Number of States Responding
1	44
2	13
3	48
4	48
5	13
6	48
7	13

### **Assessments**

As discussed, question 1 of the electronic survey focused on determining the value of assessment for road/highway fund audits for the fiscal year (FY) 1997. Table 5.3 shows a breakdown of the assessments for FY 1997 per each state responding with a series of peer group measures provided by FHWA. These peer group measures offer a comparison with each state by population (both rural and urban), income per capita, and vehicle miles traveled (VMT) by both rural and urban roadways. Table 5.4 breaks down the assessments by the U.S. Census region using peer groupings as the comparative.

State	Population (1,000)		Income Per Capita	Rural	Urban	Assessments (Dollars)
	Rural	Urban		VMT (Millions)	VMT (Millions)	
Alabama	1,907	2,412	20,055	27,047	26,411	17,509
Alaska	256	352	24,558	2,309	2,078	60,939
Arizona	862	3,693	20,989	15,416	28,075	5,802,200
Arkansas	1,298	1,284	18,928	18,545	9,599	244,786
California	2,713	30,539	25,144	55,071	230,541	48,681,723
Colorado	772	5,981	25,084	15,239	22,507	500,000
Connecticut	639	2,636	33,189	7,043	21,509	2,367,659
Delaware	192	541	27,622	3,129	4,878	90,000
Dist. of Columbia	0	529	34,932	0	3,326	0
Florida	2,266	12,388	24,104	34,507	99,500	2,700,813
Georgia	2,670	4,538	22,709	39,199	54,118	6,738,364
Hawaii	210	897	25,159	2,132	5,815	14,451,500
Idaho	655	861	19,539	8,405	4,475	718,405
Indiana	2,096	3,449	22,440	34,506	34,114	3,668,243
Iowa	1,314	1,538	22,560	17,894	10,090	32,968
Kansas	914	1,681	23,281	13,954	12,570	262,104
Kentucky	2,024	1,884	19,687	25,136	19,626	1,621,815
Louisiana	1,387	2,956	19,824	21,408	17,432	152,983
Maine	768	473	20,826	9,800	3,445	528,121
Maryland	1,131	3,928	27,221	13,990	32,619	158,458
Michigan	2,856	6,884	24,810	35,183	56,572	0
Minnesota	1,625	3,061	25,580	23,782	24,568	3,226,781
Missouri	2,045	3,357	22,864	28,247	34,733	2,005,000
Montana	467	411	19,047	7,294	2,098	3,500,000
Nebraska	643	1,680	23,047	10,636	6,441	435,984
Nevada	164	1,616	25,451	5,621	10,688	230,000
New Hampshire	595	596	26,520	6,563	4,639	376,752
New Jersey	991	7,061	31,053	12,439	50,869	4,097,440
New York	3,157	14,980	28,782	32,139	88,639	30,377,000
North Carolina	3,648	3,777	22,010	40,654	41,239	2,700,000
North Dakota	314	327	20,710	5,346	1,777	35,494
Ohio	3,253	7,930	23,537	40,072	63,603	784,819
Oregon	998	2,220	22,668	16,582	15,686	5,067,854
Pennsylvania	3,723	8,329	24,668	43,394	54,621	4,727,232
Rhode Island	67	930	24,765	1,023	6,048	281,000
South Dakota	421	326	21,516	6,144	1,794	305,205
Texas	8,186	11,253	22,045	64,939	133,761	2,217,229
Utah	386	1,663	19,156	7,648	12,796	1,320,135
Vermont	368	221	22,124	4,601	1,865	387,792
Virginia	2,187	4,547	24,925	31,149	39,171	217,703

**Table 5.3 Cont.**

State	Population (1,000)		Income Per Capita	Rural	Urban	Assessments (Dollars)
	Rural	Urban		VMT (Millions)	VMT (Millions)	
Washington	1,429	4,176	24,838	16,476	34,568	924,239
West Virginia	1,257	560	18,444	13,359	4,965	1,015,695
Wisconsin	1,970	3,137	23,269	29,623	24,781	868,000
Wyoming	196	287	21,245	5,547	2,029	216,000

Source: Compiled by authors.

**Table 5.4 Regional Breakdown - Peer State Measures with Assessments**

State	Population (1,000)		Income Per Capita	Rural	Urban	Assessments (Dollars)
	Rural	Urban		VMT (Millions)	VMT (Millions)	
<b>Region 1: Northern</b>						
Connecticut	639	2,636	33,189	7,043	21,509	2,367,659
Maine	768	473	20,826	9,800	3,445	528,121
New Hampshire	595	596	26,520	6,563	4,639	376,752
New Jersey	991	7,061	31,053	12,439	50,869	4,097,440
New York	3,157	14,980	28,782	32,139	88,639	30,377,000
Pennsylvania	3,723	8,329	24,668	43,394	54,621	4,727,232
Rhode Island	67	930	24,765	1,023	6,048	281,000
Vermont	368	221	22,124	4,601	1,865	387,792
<b>Region 2: Midwestern</b>						
Indiana	2,096	3,449	22,440	34,506	34,114	3,668,243
Iowa	1,314	1,538	22,560	17,894	10,090	32,968
Kansas	914	1,681	23,281	13,954	12,570	262,104
Michigan	2,856	6,884	24,810	35,183	56,572	0
Minnesota	1,625	3,061	25,580	23,782	24,568	3,226,781
Missouri	2,045	3,357	22,864	28,247	34,733	2,005,000
Nebraska	643	1,680	23,047	10,636	6,441	435,984
North Dakota	314	327	20,710	5,346	1,777	35,494
Ohio	3,253	7,930	23,537	40,072	63,603	784,819
South Dakota	421	326	21,516	6,144	1,794	305,205
Wisconsin	1,970	3,137	23,269	29,623	24,781	868,000
<b>Region 3: Southern</b>						
Alabama	1,907	2,412	20,055	27,047	26,411	17,509
Arkansas	1,298	1,284	18,928	18,545	9,599	244,786
Delaware	192	541	27,622	3,129	4,878	90,000
Dist. of Columbia	0	529	34,932	0	3,326	0
Florida	2,266	12,388	24,104	34,507	99,500	2,700,813
Georgia	2,670	4,538	22,709	39,199	54,118	6,738,364
Kentucky	2,024	1,884	19,687	25,136	19,626	1,621,815
Louisiana	1,387	2,956	19,824	21,408	17,432	152,983
Maryland	1,131	3,928	27,221	13,990	32,619	158,458
North Carolina	3,648	3,777	22,010	40,654	41,239	2,700,000

**Table 5.4 Cont.**

State	Population (1,000)		Income Per Capita	Rural	Urban	Assessments (Dollars)
	Rural	Urban		VMT (Millions)	VMT (Millions)	
Texas	8,186	11,253	22,045	64,939	133,761	2,217,229
Virginia	2,187	4,547	24,925	31,149	39,171	217,703
West Virginia	1,257	560	18,444	13,359	4,965	1,015,695
<b>Region 4: Western</b>						
Alaska	256	352	24,558	2,309	2,078	60,939
Arizona	862	3,693	20,989	15,416	28,075	5,802,200
California	2,713	30,539	25,144	55,071	230,541	48,681,723
Colorado	772	5,981	25,084	15,239	22,507	500,000
Hawaii	210	897	25,159	2,132	5,815	14,451,500
Idaho	655	861	19,539	8,405	4,475	718,405
Montana	467	411	19,047	7,294	2,098	350,000
Nevada	164	1,616	25,451	5,621	10,688	230,000
Oregon	998	2,220	22,668	16,582	15,686	5,067,854
Utah	386	1,663	19,156	7,648	12,796	1,320,135
Washington	1,429	4,176	24,838	16,476	34,568	924,239
Wyoming	196	287	21,245	5,547	2,029	216,000

Source: Compiled by authors.

A focus of this study is to compare Kentucky's assessments to its border states using a statistical model while holding comparable data for all other states constant. The assessments for FY 1997 and the peer group measures are illustrated in Table 5.5. As noted in Table 5.5, Illinois and Tennessee did not complete all items of the survey.

**Table 5.5: Border State Measures with Assessments**

State	Population (1000)		Income Per Capita	Rural		Urban		Assessments
	Rural	Urban		VMT	VMT Trucks	VMT	VMT Trucks	
Illinois	2,040	9,911	26,598	29,575	3,815	69,744	5,510	Did not report
Indiana	2,096	3,449	22,440	34,506	4,382	34,114	3,002	3,668,243
Kentucky	2,024	1,884	19,687	25,136	2,488	19,626	1,060	1,621,815
Missouri	2,045	3,357	22,864	28,247	3,898	34,733	2,223	2,005,000
Ohio	3,253	7,930	23,537	40,072	4,608	63,603	4,071	784,819
Tennessee	2,199	5,564	21,764	27,065	3,140	33,461	1,539	Did not report
Virginia	2,187	4,547	24,925	31,149	3,177	39,171	1,919	217,703
West Virginia	1,257	560	18,444	13,359	1,416	4,965	487	1,015,695

Source: Compiled by authors.

Therefore, only 5 of the 7 border states were used for the comparison with Kentucky.

Table 5.6 compares the border states by placing assessments for FY 1997 into dollars of assessments per one-thousand population, VMT and VMT Trucks (both rural and urban). Using the comparison offered in Table 5.6, four of the states (Indiana,

State	Assessments per 1000 Population	Assessments per Million VMT	Assessments per Million Truck VMT		
			Rural	Urban	Total
Indiana	\$661.54	\$53.46	\$837.12	\$1221.93	\$469.78
Kentucky	\$415.00	\$36.23	\$651.85	\$1530.01	\$457.11
Missouri	\$371.16	\$31.84	\$514.37	\$901.93	\$327.56
Ohio	\$70.18	\$7.57	\$170.32	\$192.78	\$90.43
Virginia	\$32.33	\$3.10	\$68.52	\$113.45	\$42.72
West Virginia	\$559.00	\$55.43	\$717.30	\$2085.62	\$533.73

Source: Compiled by authors.

Kentucky, Missouri, and West Virginia) have a similar assessment ratio per one thousand residents. Indiana’s assessment rate is the highest at \$661.54 per one thousand residents, while Ohio (\$70.18) and Virginia (\$32.33) are the lowest of Kentucky’s border states.

Another important aspect in road/highway fund assessments is the value of assessments relative to truck vehicle miles, the basis of the majority of assessments in road fund revenues. As is indicated in Table 5.6, for total truck VMTs, West Virginia assessments were the highest at \$553.73 per one million vehicle miles traveled by trucks. Indiana, Kentucky, and Missouri have comparable assessment dollar amounts, while both Ohio and Virginia lagged substantially behind.

**Auditors**

The survey acquired two other types of information relevant to determining comparable benchmark data, including the number of desk auditors and the number of

field auditors assigned to road/highway funds. These auditors are the frontline players involved in the deterrence of road fund tax evasion. Table 5.7 shows the number of desk and field auditors assigned to road/highway revenue collections nationally. Table 5.7 also indicates the national average for field auditors and the average assessments per field auditor. It should be noted that summing the two columns results in double counting, since desk and field auditors are not mutually exclusive in many states. Thus, only field auditors are used in the evaluation to avoid the double counting issue.

State	Field Auditors	Desk Auditors	Assessment Dollars per Field Auditor
Alabama	16.00	1.00	1,094.31
Alaska	0.50	1.20	121,878.00
Arizona	17.00	17.00	341,305.88
Arkansas	10.00	0.00	24,478.60
California	42.00	40.00	1,159,088.64
Colorado	4.50	3.00	111,111.11
Connecticut	9.00	4.50	263,073.22
Delaware	4.00	0.00	22,500.00
Dist. of Col.	2.00	0.00	0.00
Florida	30.00	10.00	90,027.10
Georgia	0.00	10.00	673,836.40
Hawaii	58.00	0.00	249,163.79
Idaho	6.00	0.00	119,734.17
Illinois	DNR	DNR	DNR
Indiana	23.00	0.00	159,488.83
Iowa	0.00	6.00	5,494.67
Kansas	6.00	0.00	43,684.00
Kentucky	24.00	3.00	67,575.63
Louisiana	4.00	0.00	38,245.75
Maine	2.00	0.00	264,060.50
Maryland	15.00	4.00	10,563.87
Massachusetts	6.00	0.00	DNR
Michigan	7.00	0.00	0.00
Minnesota	10.00	0.00	322,678.10
Mississippi	100.00	100.00	DNR
Missouri	12.00	18.00	167,083.33
Montana	4.00	1.00	875,000.00

**Table 5.7: Cont.**

State	Field Auditors	Desk Auditors	Assessment Dollars per Field Auditor
Nebraska	11.00	0.00	39,634.91
Nevada	10.00	0.00	23,000.00
New Hampshire	7.00	2.00	53,821.71
New Jersey	10.00	5.00	409,744.00
New Mexico	8.00	8.00	DNR
New York	20.00	10.00	1,518,850.00
North Carolina	24.00	24.00	112,500.00
North Dakota	6.00	0.00	5,915.67
Ohio	17.00	17.00	46,165.82
Oklahoma	DNR	DNR	DNR
Oregon	30.00	30.00	168,928.47
Pennsylvania	40.00	3.00	118,180.80
Rhode Island	4.00	2.00	70,250.00
South Carolina	DNR	DNR	DNR
South Dakota	6.00	2.00	50,867.50
Tennessee	4.00	3.00	DNR
Texas	35.00	0.00	63,349.40
Utah	13.00	1.00	101,548.85
Vermont	3.00	0.00	129,264.00
Virginia	14.00	14.00	15,550.21
Washington	18.00	18.00	51,346.61
West Virginia	11.00	1.00	92,335.91
Wisconsin	8.00	6.00	108,500.00
Wyoming	7.00	0.00	30,857.14

Mean	14.96		189,585.84
Standard Deviation	17.43		309,361.59

\* indicates that two states, Georgia and Iowa, reported no field auditors. Thus desk auditors were used to provide the assessments per auditor column.

DNR indicates states that Did Not Report that item on the survey instrument.

Source: Compiled by authors from survey data.

Table 5.7 shows that the average dollar value of road/highway fund assessments per field auditor was \$189,585.84 for FY 1997. However, the standard deviation is quite high at approximately 1.5 times the average or \$309,361.59. The average number of field auditors assigned to road/highway funds in the United States was approximately fifteen,

with a high standard deviation of over seventeen auditors. Thus, the variance of state's assessments per auditor and number of auditors is considered high. Table 5.8 indicates the number of auditors within the border states that were reported in the survey. The states of Missouri, Tennessee, and West Virginia are below the national average for field auditors for road/highway revenue.

<b>Table 5.8: Auditors in the Border States</b>			
<b>State</b>	<b>Field Auditors</b>	<b>Desk Auditors</b>	<b>Assessment Dollars per Field Auditor</b>
Illinois	DNR	DNR	DNR
Indiana	23.00	0.00	159,488.83
Kentucky	24.00	3.00	67,575.63
Missouri	12.00	18.00	167,083.33
Ohio	17.00	17.00	46,165.82
Tennessee	4.00	3.00	DNR
Virginia	14.00	14.00	15,550.21
West Virginia	11.00	1.00	92,335.91

DNR indicates states that Did Not Report that item on the survey instrument.  
Source: Compiled by authors from survey data.

### **Statistical Model**

A set of statistical models is developed from the survey data in this part of the analysis. The goal of this analysis is to determine the effects of auditors, tax rates, the border states and audit group location on assessments for FY1997. The variables used in the development of the models for this section are presented in Table 5.9. Table 5.10 presents the summary statistics of each variable used within the models. Two dependent variables, ASESSVMT and ASSESSMENT, are used in the two-model analysis. The first dependent variable model (Model 1) that is offered in Table 5.10 uses the dependent variable ASESSVMT. ASESSVMT is defined as the amount of assessments divided by the total number of truck vehicle miles traveled for FY1997. The second model (Model 2) uses the dependent variable ASSESSMENT as shown in Table 5.12. ASSESSMENT

is defined as the total amount of assessments, less interest and penalties, for FY1997.

Since the goal of the model development is to look at the effect that auditors, the location of the audit group, and the border states have upon road/highway fund assessments for

FY1997, the two models provide for different perspectives of those effects.

<b>Table 5.9: Statistical Model Variable Definitions</b>	
<b>Dependent Variables</b>	
Assessments per million truck VMT for FY1997 (ASESSVMT).	
Assessment for FY 1997 in real dollars (ASSESSMENT).	
<b>Independent Variables</b>	
Border States (BORDER) – Is a dummy variable that includes the states of Kentucky, Illinois, Indiana, Missouri, Ohio, Tennessee, Virginia and West Virginia.	
Field Auditors (AUDITOR) – The number of field auditors as reported on the survey. Desk auditors were substituted for field auditors for the states of Georgia and Iowa.	
Diesel Tax (DIESELTX) – excise tax in cents per gallon of diesel for 1997.	
Income per Capita (INCCAP) – per capita income measured in dollars for 1997.	
Urban Road Miles (URBANMIL) – miles of road in urban areas owned by state highway agencies.	
Rural Road Miles (RURALMIL) – miles of road in rural areas owned by state highway agencies.	
Federal Tax Contribution (FEDTAX) – amount of federal tax revenue awarded to the state for FY1997.	
Location (LOCATION) – indicates 1 if collection agency/department is revenue, 0 otherwise	

<b>Table 5.10: Variable Descriptive Statistics Results</b>		
<b>Dependent Variables</b>	<b>Mean</b>	<b>Standard Deviation</b>
ASESSVMT	2839.688	14604.627
ASSESSMENT	3503737.40	8601745.782
<b>Independent Variables</b>		
BORDER	.16	.370
AUDITOR	14.00	12.204
DIESELTX	19.89	4.838
INCCAP	23657.386	3595.115
URBANMIL	2082.55	2514.016
RURALMIL	12921.73	15608.920
FEDTAX	352852.66	314996.493
LOCATION	.205	.408

<b>Table 5.11 Statistical Results</b>				
<b>Model 1: Dependent Variable is AssessVMT</b>				
	Estimated Coefficient	Standard Error	t-value	p-value
(Constant)	-9568.236	13999.290	-.683	.499
BORDER	-3169.360	4207.138	-.753	.456
AUDITOR	1232.090	146.369	8.418	.000
DIESELTX	-453.027	293.837	-1.542	.132
INCCAP	.737	.481	1.534	.134
URBANMIL	-2.411	1.575	-1.531	.135
RURALMIL	.139	.232	.599	.553
FEDTAX	-0.025	.007	-3.640	.001
LOCATION	-4095.730	3522.164	-1.163	.253

Model R<sup>2</sup>=68.4%, Adjusted R<sup>2</sup> = 61.1%. Model is statistically significant at p < .000

As shown in Tables 5.11, Model 1 is shown in the linear form. Model 1 shows that only two variables are statistically different from zero at a p-value less than .05. The first variable that is statistically significant is labeled AUDITOR and has a coefficient of 1232.09. The interpretation of the coefficient is that for an increase of one auditor, on average a state will receive an additional \$1232.09 per truck one million vehicle miles traveled. The second statistically significant variable is labeled FEDTAX. This is an interesting with the coefficient for FEDTAX statistically significant. The coefficient is interpreted as a one-dollar increase in federal tax revenue distributed to a state reduces the amount of assessment per truck one million vehicle miles traveled by approximately 2.5 cents.

Two key findings in the analysis presented in Table 5.11 are that neither BORDER nor LOCATION is statistically significant. This indicates that the variable BORDER, which identifies Kentucky and its the seven bordering states, on average collect \$3,169.36 per truck one million vehicle miles traveled less than the other states within the data set for FY1997. BORDER, however is not statistically significant,

although the sign of the coefficient is in the correct direction when consideration is given to the fact that these states, on average, assessed less than the other states for FY1997.

With respect to the location of the audit group, LOCATION has no bearing on the amount of assessments per truck one million vehicle miles traveled. The variable is not statistically different than zero, although the sign of the variable is negative, which would indicate that revenue agencies assess less than other cabinets/agencies, such as transportation agencies.

<b>Table 5.12 Statistical Results</b>				
<b>Model 2: Dependent Variable is Assessments</b>				
	Estimated Coefficient	Standard Error	t-value	p-value
(Constant)	-10779567.515	7735463.210	-1.394	.172
BORDER	-2334521.994	2324700.795	-1.004	.322
AUDITOR	173583.587	80877.882	2.146	.039
DIESELTX	15880.943	162362.666	.098	.923
INCCAP	254.514	265.575	.958	.344
URBANMIL	-2230.568	870.158	-2.563	.015
RURALMIL	99.127	128.196	.773	.445
FEDTAX	25.321	3.747	6.757	.000
LOCATION	1551542.906	1946210.959	.797	.431
Model R <sup>2</sup> =72.1%, Adjusted R <sup>2</sup> = 65.8%. Model is statistically significant at p < .000				
<b>Model 2a: Dependent Variable is LnAssessments</b>				
(Constant)	-7.330	45.196	-.162	.872
BORDER	-.443	1.197	-.371	.713
LNAUDIT	1.958	.703	2.784	.009
LNDIESEL	-.662	1.505	-.440	.663
LNINCOME	.292	4.321	.068	.947
LNURBAN	-2.491	.879	-2.832	.008
LNRURAL	-7.277	2.326	-3.129	.004
LNFEEDTAX	.652	.837	.778	.442
LOCATION	.950	1.081	.879	.386
Model R <sup>2</sup> =48.2%, Adjusted R <sup>2</sup> = 36.4%. Model is statistically significant at p < .002				

In Table 5.12, the dependent variable is the dollar amount of assessments for FY1997. Within this analysis, two functional forms are used. The initial model is in the

linear form (Model 2). The second model, shown as Model 2a, is in the log-log form. The log-log functional form allows us to look at the elasticity of the auditors with respect to the dollar amount of assessments for FY1997.

Model 2 shows that three of the variables are statistically different from zero at a p-value less than .05. The first statistically significant variable, AUDITOR indicates that a change of one auditor will produce an increase of \$173,583.59 in assessments. This is a large change and provides for further evidence of the importance of auditors in highway/transportation revenue. The second variable is URBANMIL. URBANMIL indicates that as we increase urban highways owned by state highway agencies by one mile, assessments decline by \$2230.57 on average. The last statistically significant variable is FEDTAX. This estimate is interpreted as one-dollar increase in federal tax revenue distributed to a state increases the amount of assessments by approximately \$25.32. Similar to the findings presented in Table 5.11, both BORDER and LOCATION are not statistically significant.

Looking at Model 2a, the results are very similar to both Model 1 and Model 2, however the interpretation is different. LNAUDIT indicates that a 10% change in the number of auditors increases assessments by 19.58%. This finding shows that auditors are considered elastic with respect to assessments. To clarify this finding, if Kentucky increased its number of auditors by 1, that would produce approximately \$132,313 in assessment revenue. This is an important finding, although it does not include the value-added by auditors with respect to deterring taxpayers from evasion of highway/transportation revenues. Thus, this figure underestimates the total value-added of increasing the number of auditors. Once again, the BORDER and LOCATION

variables are not statistically significant. Furthermore, both estimates of the variables in the log-log form indicate that the variables are inelastic, thus do not change with the amount of assessments.

### **Summary**

This chapter explored the affect that enforcement, auditing, and assessments have on road fund revenue compliance through the derivation of three statistical models. All three models indicated the importance of the number of auditors, the enforcement cabinet or agency, the State of Kentucky and its seven bordering states, the tax levy of diesel fuel, and federal support in road fund revenues collection. In all three models, the importance of auditors is understated. This is due to the fact that the dependent variables used in the models account for only assessments by auditors, ignoring their impact as deterrence to road fund tax evasion. The qualitative aspect of auditors and their role in enforcement is therefore not included or measured within this study.

## **CHAPTER 6: Recommendations and Conclusions**

The collection of road fund taxes and revenues involves a complex process of assessment, collection, auditing, and enforcement actions by federal, state, and local government officials and agencies. This complexity increases the opportunities for tax evasion, which renders the tax collection process inefficient. The complexity of the collection process is further exacerbated by periodic changes in federal tax laws and processing changes that impact a state and its ability to effectively and efficiently collect its road fund taxes and fees. This study focused on a detailed look at this complex collection system and the effects of process, coordination, uniformity, and assessments on road fund administration. We have provided a detailed mapping of the road fund collection system by considering the types of tax and fee sources, tax rates, location of the collection and audit function, and the impact of road fund revenue auditors. This detailed analysis has provided both a systematic policy approach and an empirical evaluation of the collection system. This has provided insight into the identification of several efficiency and uniformity improvement that might be adopted by Kentucky to further reduce fuel tax evasion and enhance road fund revenues.

The following six policy options and recommendations were developed from this analysis:

1. Actively pursue uniformity and coordination amongst Kentucky's border states.
2. Consider revision of the registration fee system.
3. Assess the administrative costs of having multiple audit groups for road fund revenues.
4. Re-assess the marginal costs of additional field auditors.
5. Evaluate multi-year estimates of road fund assessments.
6. Derive an evasion estimate of the total revenue impact of audits.

The first recommendation, actively pursue uniformity and coordination amongst Kentucky's border states, provides enhanced information sharing among Kentucky's seven border states. This recommendation has three goals. First, to completely implement among the border states the Federation of Tax Administrators (FTA) eleven-point plan. The 11-Point Plan is an effort to help make the administration of fuel taxes more efficient and consistent from state to state; to improve and increase information exchange among the states; and to encourage and assist the states in cooperative enforcement efforts to fight evasion. Second, encourage multiple insights into reducing collection problems and inefficiencies. This also provides an enhanced set of tax-fee options that are currently under addressed within the border states. As shown in the collection mapping section of this report, the border states share few common tax-fee sources. Open information sharing combined with tax-fee issues can encourage enhancement of the collection process. Third, coordinate the mitigation of incentives for tax-fee evasion that have been commonly associated with the border states, such as bootlegging. Moreover, coordination can reduce the costs associated with policy implementation since the border states will be working as a consortium to ensure that programs, like dyed fuel, are addressed amongst the border states.

The second recommendation is to modify the current registration fee system. As illustrated in Table 4.8, Kentucky's registration fees are substantially below the border states average of \$28.41 for automobiles under 4000 pounds and \$29.03 for automobiles over 4000 pounds. Kentucky's dependence on the usage tax can be reduced through a revision of the registration fee structure. Currently the wide diversity among the border

states in the registration fee structure increases inefficiencies associated with border-crossing and increases the opportunity for registration fee avoidance and evasion.

The third recommendation, assessing the administrative costs of having multiple audit groups for road fund revenues, focuses on one aspect of the empirical analysis described in Chapter 5. The statistical analysis showed that the location of the auditing group had no statistical effect on the amount of assessments. This is a good indicator that Kentucky's two cabinet system of a revenue fuel tax audit group and a transportation audit group needs to be reconsidered. The basis of this analysis should be the administrative costs associated with having both audit groups. If consolidation of these groups provides for reduced administrative costs, then administrative efficiency would indicate that Kentucky should reconsider its current policy.

The fourth recommendation addresses the use of field auditors. It was estimated that an additional Kentucky auditor would increase assessments by \$132,313 using the elasticity provided in the analysis. Coinciding with this monetary finding is the fact that Kentucky has a relatively small number of field auditors performing motor fuel tax audits in comparison to other states. Field auditors are valuable in the detection and deterrence of fuel tax evasion, but they also require significant expenditures of public funds. Auditing functions normally realize diminishing returns in terms of audit revenues to state treasuries. To determine the optimal allocation of state funds for this auditing function, the marginal cost associated with adding additional auditors should be calculated and compared with the estimated increase in assessments in order to determine the most efficient quantity of field auditors.

The fifth recommendation is to evaluate multiple year estimates of road fund assessments. This would provide the Commonwealth with a time-trend analysis and a multiple year look at the effect of auditing, taxes, and administration on assessments. As described by FHWA Motor-Fuel Reporting Information Committee, assessments are often delayed several months or years while lengthy appeals procedures are pursued. The need for multiple year data is critical when evaluating the effects of policy and administrative changes on road fund collection processes.

The final recommendation arises from issues partially addressed by this study. The estimates reported in this study need to be substantiated by the derivation of a detailed empirical model based on multiple indicators of the monetary value of auditing with respect to road fund tax-fee collection, which was beyond the scope of this study. Since we were limited by a single year assessment and used only assessments as value providers for the role of auditors in road fund collection, we have biased the value of auditors downward. That is, due to the lack of a better measure, we have underestimated the elasticity of auditors. Clearly, auditing provides more than just assessments; it is commonly associated with deterring evasion behavior. Therefore, tax and fee collection rise in states that provide additional auditors, which translates into increased revenues since taxpayers realize that the probability of an audit increases. Unfortunately, this phenomena was not measured within this study, but could be estimated within a time series study.

The recommendations offered here could help increase the efficiency of the road fund collection process, while providing for an indirect reduction of road fund tax-fee

evasion. This reduction promotes equity and efficiency in the administration of road fund revenues, increasing the resources collected in the road fund.

### **Conclusions**

In our system of federalism, states have the opportunity to enact road fund tax and revenue measures which meet their needs and are consistent with their respective tax/fee system goals. As the states must cope with similar tax policy issues, it is not surprising there is a high degree of commonality of road fund tax and revenue types but considerable variation in the rates and structures of the various tax and fee sources enacted to support the construction and maintenance of road and highway systems. There is also considerable variation among the states in the way that taxes are assessed and collected. State tax and collection system variations add complexity to the compliance process for motorists and commercial carriers and increase the cost of administering state road fund taxes and revenues.

This study described the road fund revenue structures and collection processes of the states. The similarities and differences of structure and process were analyzed in an attempt to identify potential ways and means of enhancing the efficiency of Kentucky's road fund collection system. The potential efficiency gains from efforts such as augmenting audit efforts were estimated based upon national estimates of assessments realized from audit initiatives. To determine the optimal audit strategy for Kentucky, additional research regarding the "behavioral" impact of audit activities is needed. However, it appears that additional revenue gains can be expected if more intensive and extensive audit procedures and processes were adopted.

With encouragement of the federal government, particularly ISTEA and TEA-21, opportunities are emerging for greater interstate cooperation in road fund collection procedures. Whether the potential efficiencies are realized, however, is dependent to a great degree on the willingness of the states to increase tax structure and compliance and administrative process uniformity. This study indicates that there are opportunities for increased state-to-state cooperation and coordination. In the meantime, this study provides suggestions for Kentucky to utilize in enhancing its assessment, collection and audit practices while it works with other states and the federal government in achieving greater uniformity of tax structures and tax administrative processes.

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## APPENDIX A: Motor Fuels

Table 1 summarizes the major motor fuel taxes in each state effective July 1,

1999.

State	Gasoline			Diesel Fuel			Gasohol			Notes
	Excise Tax	Add'l Tax	Total Tax	Excise Tax	Add'l Tax	Total Tax	Excise Tax	Add'l Tax	Total Tax	
Alabama	16.0	2.0	18.0	17.0	2.0	19.0	16.0	2.0	18.0	Inspection fee
Alaska	8.0		8.0	8.0		8.0	0.0		0.0	
Arizona	18.0		18.0	18.0		18.0	18.0		18.0	*3
Arkansas *8	19.5	0.2	19.7	20.5	0.2	20.7	19.5	0.2	19.7	Environment surcharge
California *1	18.0		18.0	18.0		18.0	18.0		18.0	Sales tax applicable
Colorado	22.0		22.0	20.5		20.5	22.0		22.0	
Connecticut	32.0		32.0	18.0		18.0	31.0		31.0	
Delaware	23.0		23.0	22.0		22.0	23.0		23.0	Plus 0.5% GRT /5
Dist. of Columbia	20.0		20.0	20.0		20.0	20.0		20.0	
Florida *1	4.0	9.1	13.1	16.0	9.1	25.1	4.0	9.1	13.1	Sales tax added to excise *2
Georgia	7.5		7.5	7.5		7.5	7.5		7.5	Sales tax applicable (3%)
Hawaii *1	16.0		16.0	16.0		16.0	16.0		16.0	Sales tax applicable
Idaho	25.0	1.0	26.0	25.0	1.0	26.0	22.5	1.0	23.5	Clean water tax *7
Illinois *1	19.0	0.3	19.3	21.5		21.5	19.0		19.0	Sales tax appl., env. fee *3
Indiana	15.0		15.0	16.0		16.0	15.0		15.0	Sales tax applicable *3
Iowa	20.0		20.0	22.5		22.5	19.0		19.0	
Kansas	20.0		20.0	22.0		22.0	20.0		20.0	
Kentucky	15.0	1.4	16.4	12.0	1.4	13.4	15.0	1.4	16.4	Environmental fee *4 *3

<b>Table 1: Continued</b>										
	<b>Gasoline</b>			<b>Diesel Fuel</b>			<b>Gasohol</b>			
<b>State</b>	<b>Excise Tax</b>	<b>Add'l Tax</b>	<b>Total Tax</b>	<b>Excise Tax</b>	<b>Add'l Tax</b>	<b>Total Tax</b>	<b>Excise Tax</b>	<b>Add'l Tax</b>	<b>Total Tax</b>	<b>Notes</b>
Louisiana	20.0		20.0	20.0		20.0	20.0		20.0	
Maine	19.0		19.0	20.0		20.0	19.0		19.0	
Maryland	23.5		23.5	24.25		24.3	23.5		23.5	
Massachusetts	21.0		21.0	21.0		21.0	21.0		21.0	*4
Michigan	19.0		19.0	15.0		15.0	19.0		19.0	Sales tax applicable
Minnesota	20.0		20.0	20.0		20.0	20.0		20.0	
Mississippi	18.0	0.4	18.4	18.0	0.4	18.4	18.0	0.4	18.4	Environmental fee
Missouri	17.0	0.05	17.05	17.0	0.05	17.05	15.0	0.05	15.05	Inspection fee
Montana	27.0		27.0	27.75		27.75	27.0		27.0	
Nebraska	24.1	0.9	25.0	24.1	0.9	25.0	24.1	0.9	25.0	Petroleum fee *5
Nevada *1	24.0		24.00	27.0		27.0	24.0		24.00	
New Hampshire	18.0	0.7	18.7	18.0	0.7	18.7	18.0	0.7	18.7	Oil discharge cleanup fee
New Jersey	10.5		10.5	13.5		13.5	10.5		10.5	Plus a 2.75% GRT
New Mexico	17.0	1.0	18.0	18.0	1.0	19.0	17.0	1.0	18.0	Petroeum loading fee
New York	8.0		8.0	8.0		8.0	8.0		8.0	Sales tax applicable *3, *4
North Carolina	21.6		21.6	21.6		21.6	21.6		21.6	*4
North Dakota	21.0		21.0	21.0		21.0	21.0		21.0	
Ohio	22.0		22.0	22.0		22.0	22.0		22.0	Plus 3 cents commerical
Oklahoma	16.0	1.0	17.0	13.0	1.0	14.0	16.0	1.0	17.0	Environmental fee
Oregon *1	24.0		24.0	24.0		24.0	24.0		24.0	
Pennsylvania	12.0	18.77	30.77	12.0	18.77	30.77	12.0	18.77	30.77	Oil franchise tax *3
Rhode Island	28.0	1.0	29.0	28.0	1.0	29.0	28.0	1.0	29.0	LUST tax
South Carolina	16.0		16.0	16.0		16.0	16.0		16.0	
South Dakota*1	22.0		22.0	22.0		22.0	20.0		20.0	
Tennessee *1	20.0	1.4	21.4	17.0	1.4	18.4	20.4	1.4	21.4	Petroleum tax & Envir. Fee

<b>Table 1: Continued</b>										
	<b>Gasoline</b>			<b>Diesel Fuel</b>			<b>Gasohol</b>			
<b>State</b>	<b>Excise Tax</b>	<b>Add'l Tax</b>	<b>Total Tax</b>	<b>Excise Tax</b>	<b>Add'l Tax</b>	<b>Total Tax</b>	<b>Excise Tax</b>	<b>Add'l Tax</b>	<b>Total Tax</b>	<b>Notes</b>
Texas	20.0		20.0	20.0		20.0	20.0		20.0	
Utah	24.5	0.25	24.75	24.5	0.25	24.75	24.5	0.25	24.75	
Vermont	19.0	1.0	20.0	16.0	1.0	17.0	19.0	1.0	20.0	Petroleum cleanup fee *6
Virginia *1	17.5		17.5	16.0		16.0	17.5		17.5	*6
Washington	23.0		23.0	23.0		23.0	23.0		23.0	0.5% privilege tax
West Virginia	20.5	4.85	25.35	20.5	4.85	25.35	20.5	4.85	25.35	Sales tax added to excise
Wisconsin *5	25.8		25.8	25.8		25.8	25.8		25.8	*5
Wyoming	13.0	1.0	14.0	13.0	1.0	14.0	13.0	1.0	14.0	LUST tax
<b>Federal</b>	<b>18.3</b>		<b>18.3</b>	<b>24.3</b>		<b>24.3</b>	<b>13.0</b>		<b>13.0</b>	*7

SOURCE: Compiled by FTA from various sources.

\* 1 Tax rates do not include local option taxes. In AL, 1 - 3 cents; CA, 1 cent; HI, 8 to 11.5 cent; IL, 5 cents in Chicago and 6 cents in Cook county (gasoline only); NV, 1 to 10 cents; OR, 1 to 2 cents; SD and TN, 1 cent; and VA 2%.

\* 2 Local taxes for gasoline and gasohol vary from 5.5 cents to 17 cents. Plus a 2.07-cent per gallon pollution tax.

\* 3 Carriers pay an additional surcharge equal to AZ-8 cents, IL-6.3 cents (g) 6.0 cents (d), IN-11 cents, KY-2% (g) 4.7% (d), NY-22.21 (g) 23.21 (d), PA-6 cents.

\* 4 Tax rate is based on the average wholesale price and is adjusted quarterly. The actual rates are: KY, 9%; MA, 19.1%; and NC, 7%.

\* 5 Portion of the rate is adjustable based on maintenance costs, sales volume, or cost of fuel to state government.

\* 6 Large trucks pay a higher tax, VT-total 25 cents per gallon, VA-additional 3.5 cents.

\* 7 Tax rate is reduced by the percentage of ethanol used in blending (reported rate assumes the max. 10% ethanol).

\* 8 Tax rate will increase to 20.5 cents on July 1, 2000.

Table 1 breaks down each rate into components. For example, some states have only a fixed per gallon excise tax rate. Others have additional environmental taxes and fees, while some have several specific taxes that may be levied at different points. In addition to excise taxes, nine states apply the sales tax to sales of motor fuels for highway

use. Florida and West Virginia estimate the average statewide price per gallonage and add the tax to the general excise tax rate.

Ten states have variable tax rates that are subject to periodic adjustments depending on current market conditions and state revenue needs. Three of these states impose a tax based upon the average wholesale price, with the gallonage rate adjusted quarterly. The actual tax rates are 9 percent in Kentucky, 10 percent in Massachusetts, and 7 percent in North Carolina. The current rates are at the statutory minimum amounts in Massachusetts. Meanwhile, the tax rates in Nebraska are adjusted quarterly while Delaware, Florida, New York, West Virginia, and Wisconsin are adjusted annually based on a formula taking into account highway maintenance costs, the volume of sales, or wholesale fuel prices.

The gasoline tax rate ranges from 32 cents per gallon in Connecticut to only 7.5 cents in Georgia and 8 cents in Alaska. The diesel (or special fuels) rate ranges from a high of 30.77 cents per gallon in Pennsylvania to only 7.5 cents in Georgia and 8 cents in Alaska. However, Georgia applies a 3 percent state sales tax to the retail purchase price increasing the effective tax. For gasohol, the tax rate ranges from 31 cents per gallon in Connecticut to only 7.5 cents in Georgia. Meanwhile, Alaska does not tax gasohol.

The table reveals seven states that provide a special lower rate to gasohol total tax compared to gasoline total tax. However, some states use a different method to reduce the rate on gasohol, by providing a special tax credit or voucher to in-state producers of ethanol. These credits or vouchers effectively reduce the tax rate on gasohol by not taxing the portion derived from alcohol. Three states use a credit/voucher system to reduce the gasohol rate, including Montana, Nebraska, and Wyoming.

The motor fuel tax in several states consists of several taxes that may be levied at different points. For example, the Pennsylvania tax of 30.77 cents per gallon of gasoline includes a separate Oil Company Franchise Tax at a variable rate adjusted monthly. The tax rate on motor carriers is 36.77 cents per gallon of gasoline, consisting of the excise tax, the oil franchise tax, and an extra 6-cent carrier tax. Each of these differences has different implications for audit techniques, types of companies and records auditors/investigators may see.

## **APPENDIX B: Road User Tax and Fee Distribution**

### **Kentucky**

Kentucky vehicle registration is assessed through a flat fee of \$14.50. Truck registration is assessed as follows: a fee of \$11.50 is assessed for trucks under 6,000 pounds and \$474 for trucks over 44,000 pounds. Farm trucks are assessed a fee of \$11.50 for 38,000 pounds or less to 40% of regular fee over 38,000 pounds. When a registration is transferred, the clerk is paid \$1-\$3 which is remitted to the Transportation Cabinet. Three dollars of the registration fees on cars, trucks, and registration transfers are credited to the County Clerks for administering the registration fees collection process. Additionally, thirty percent of truck registration fees are credited to the County Road Fund. The remainder of proceeds is deposited into the State Transportation Fund (road fund).

Funds credited to the road fund are used to make lease payments of the Kentucky Turnpike Authority; any excess beyond making annual lease payments are used by the road fund as allowable by law (KRS 175.800). Within the road fund is the Economic Development Road account, of which an amount required by law must be set aside within this special account. The state of Kentucky assumes responsibility for all roads within the state system and reimburses counties for work on state roads for which a cost to counties is incurred. Proceeds from the issuance of plates or tags to the state highway/road/transportation fund (less \$3 for all cars, trucks, and transfers to County Clerks for the administration of the registration fee program; \$4 per motorcycle registration for the Motorcycle Safety Education Program Fund; 30% of truck registration fees credited to the County Road Fund.)

Kentucky assess fees in the following manner: the fee for a four year original or renewal license is \$8; for motorcycles, the fee is \$12 (a combination of vehicle and motorcycle licenses is \$12); learner's permit is \$6; fee for a duplicate license is \$6. The circuit court of each county deposits the proceeds from issuing operator's license to the State Treasury, to the credit of the general fund, except: 22% of the cost of issuance of a new or renewal license, \$1 per instruction permit; \$1 for application for instruction permit; \$1.25 per application for a duplicate license; and \$1.25 per identification card is credited to the circuit courts; \$1 is credited to a special account within the state road fund to be used by the Transportation Cabinet; \$4 per motorcycle license is credited to a motorcycle education program within the State Road Fund; and organ donor fees may be voluntarily provided by applicants. Additionally, \$1 per instruction permit, \$3 per application for instructor's permit, \$4 per duplicate license application, and \$10 for application for reinstatement are credited to the Administrative Office of the Courts (circuit courts). All remaining fees are forwarded to the state.

Proceeds from certificate of title fees are credited to the highway/transportation/road fund as follows: \$4 is credited to the county clerks and \$2 to the State Road Fund. Proceeds from the sale of dealer's licenses are credited to a fund intended for a transportation/highway/road fund-type use (less \$3 per license to the county clerks). Certificate of permit fees are credited to the state transportation/highway/road fund.

**Alabama**

Alabama assesses a flat registration fee on automobiles of \$24.25, which includes a \$1.25 issuance fee. Trucks are assessed fees based on weight; the typical non-farm truck fee is \$236.25 and for farm trucks, the typical fee is \$31.25 (\$30 for trucks up to 30,000 and \$85 for 42,000 pounds). An additional truck registration fee is assessed and collected fees are distributed as 35.25% to counties and cities and 64.75% to the State Public Road and Bridge Fund.

The Alabama State Public Road and Bridge Fund is used primarily to reimburse the Department of Revenue for costs incurred in collecting fees; to pay interest and principal on bonds (but not for refunding of bonds); and the remainder is for maintenance and construction of roads of the state highway system. Other registration fees are distributed as follows: 5% is allocated to the State Treasurer.

Proceeds from the issuance of plates or tags to a state highway/road/transportation fund as follows: 5% to the State Treasurer; 2.5% and \$1.25 per registration to the County Probate Judges; additional car, light truck, and motorcycle registration fees to the Department of Public Safety; 28% to counties and municipalities; 72% to the State Public Road and Bridge Fund less the amount required for the Highway Sinking Fund to pay debt service; any remaining is deposited to the State Department of Transportation; and of additional truck registration fees, 35.25% is credited to the counties and cities and 64.75% to the State Public Road and Bridge Fund).

Fees for operator type licenses are collected and credited to the state revenue fund or general revenue fund (less \$.60 per license to the County Probate Judge and \$.90 to the County Public Highway and Traffic Fund). Proceeds from certificate of title fees are credited to the Department of Revenue (less \$1.50 per certificate of title to the designated

title agent). Certificate of permit fees are credited to the state transportation/highway/road fund (less amounts required for the Motor Carrier Fund and the Department of Revenue, and less \$50,000 to the Public Service Commission).

**Alaska**

Registration fees are credited to the state general fund (less 3% to the Department of Administration). Operator's license fees are credited to state general fund or general revenue fund (less 3% to the Department of Administration). Proceeds from issuing certificate of title fees are credited to the general fund of the state. Proceeds from fines and penalties are credited to the state general fund. Dealer's fees are credited to the state general fund. Proceeds from supervision and inspection fees are credited to the state general fund or general revenue fund (less 3% to the Department of Administration).

**Arizona**

Registration fees are credited to "other" accounts as follows: \$1 per registration is credited to the County Assessors; \$1.50 per registration is credited to the Air Quality Fund; \$1 per motorcycle registration to the State Highway Fund; and the Remainder to the Highway User Revenue Fund. Certificate of title fees are credited to the Highway User Revenue Fund. Fines and penalties are credited to the Highway User Revenue Fund. Dealer's fees are credited to the Highway User Revenue Fund. Proceeds from supervision and inspection fees are credited to the Emissions Inspection Fund.

**Arkansas**

Proceeds from plates and/or tags are credited to the State Apportionment Fund. Fees for operator type licenses are collected and credited to the State Police Fund. Proceeds from certificate of title fees are credited to the Revenue Department Building Expansion Fund. Proceeds from the sale of dealer's licenses are credited to the State Apportionment Fund. Certificate of permit fees are credited to the state

transportation/highway/road fund as follows: 3% for the Constitutional and Fiscal Agencies Fund and 97% for State Highway and Transportation Department. Supervision and Inspection fees are credited to the State Police Fund.

### **California**

California assesses a flat fee for automobile registration of \$28 including a \$1 California Highway Patrol Fee. Electric vehicles are subject to fees based on weight. Commercial trucks are assessed fees based on weight, with the typical fee at \$232. No special rates are assessed on farm trucks (i.e., separate from regular truck fees), and thus the typical fee is also \$232.

A local fee of an additional \$4 per registration (local option tax) within districts designated as nonattainment areas for any pollutant emitted by motor vehicles may be assessed. Proceeds from the levy of such fees, when assessed, are credited to the local Air Pollution Control Districts. Another local option tax, which is \$1 per registration when levied, is credited to the Abandoned Vehicle Trust Fund. A \$1 per registration local option tax may also be levied for County use.

California credits registration fees in the following manner: \$1 per state registration fee is credited to the Department of Motor Vehicles for administering the fee program; \$1 per registration goes to the California Highway Patrol; \$2 per motorcycle registration or registration renewal is designated for the Motorcyclist Safety Fund; \$300 per vehicle not registered previously within the state of California and not meeting emissions standards is charged and credited to the general fund of the state. Remaining fees are credited to the Motor Vehicle Account (State Transportation Fund), with separate appropriations made for the Department of Motor Vehicles, the California Highway Patrol, the Secretary of Business, Transportation, and Housing, the Department of Justice,

State Air Resources Board, the Department of Health, and the Judicial Council. Beyond these appropriations, remaining funds are credited to the State Highway Account.

Operator's license fees are credited to the state transportation/highway/road fund in a manner similar to registration fees (see footnote number 1). Fines and penalties are credited as follows: the Motor Vehicle License Fee Account; to the DMV for enforcement; and of the remainder, 2.50% is credited to the Motor Vehicle Account; trailer fees are credited to the general fund; 18.75% to the Counties and cities; and 81.25% distributed as 50% to the cities and 50% to the counties. Dealer's fees are credited in the same manner as fines and penalties as described above. Proceeds from supervision and inspection fees are credited to the Vehicle Inspection and Repair Fund, with \$50 per initial inspection to the credit of the Motor Vehicle Account and \$3 per fee to the DMV and remaining funds to the California Highway Patrol.

### **Colorado**

Registration fees are credited to "other" accounts as follows: \$1 per registration to the County Clerks; \$4 per rural registration to the County Road and Bridge Fund; \$4 per urban registration to the City Road and Street Funds; \$2 per motorcycle registration to the Motorcycle Operator Safety Training Fund; \$. 50 per registration to the Highway User's Tax Fund; \$1.50 to the AIR Account; \$10 for heavy diesel truck registration fees to the AIR Account; \$1 per registration to the Emergency Medical Services Account), and the remainder to the Highway User Tax Fund). Operator's license fees are credited to "other" accounts as follows: \$1 per motorcycle endorsement is credited to the Motorcycle Operator Safety Training Fund; \$6 retained by counties issuing licenses; and the remainder is deposited into the Highway User Tax Fund. Proceeds from issuing certificate of title fees are credited to "other" accounts as follows: \$2.50 per title is

credited to the Highway User Tax Fund and the remainder is credited to the County General Fund. Fines and penalties are credited to the Highway User Tax Fund. Dealer's fees are credited to the Auto Dealer's License Fund less the amount required to the Department of Revenue. Proceeds from supervision and inspection fees are credited to the AIR Account and the Waste Tire Recycling Development Cash Fund.

### **Connecticut**

Connecticut assesses an automobile registration flat fee of \$70 for two years, while are assessed a fee based on weight. The typical commercial truck registration fee is \$281; for farm trucks, a flat fee of \$28 for a two-year period is assessed. A \$5 safety fee is assessed for reflectorized plates, the proceeds of which are credited to the state general fund. Deposits registration fees into a highway, state road fund, or transportation fund. Deposit proceeds from operator type licenses fees into highway/road transportation funds.

Funds from the issuance of operator licenses are deposited into the Special Transportation Fund. Certificate of Title fees are credited to the highway/road/transportation funds. Funds collected from the transfer and registration fees are credited to the highway/road/transportation funds. The proceeds collected from Supervision and Inspection fees are credited to the highway/road/transportation funds.

### **Delaware**

Delaware assesses a flat fee of \$20 per automobile registration while truck fees are \$20 for the first 5,000 pounds and \$16.80 for each additional 1,000 pounds (non-farm). Farm trucks are assessed a fee of \$20 for first 5,000 pounds and \$2.60 for each additional 1,000 pounds. Proceeds from the issuance of plates or tags are credited to the state highway/road/transportation fund (less \$5 safety fee for reflectorized plates, which

is credited to the state general fund and \$4 per motorcycle registration which is credited to the Department of Transportation.) Fees for operator type licenses are collected and credited to the state highway/transportation/road fund. Proceeds from certificate of title fees are credited to the highway/transportation/road fund. Proceeds from the sale of dealer's licenses are credited to a fund intended for a transportation/highway/road fund-type use. Certificate of permit fees are credited to the state transportation/highway/road fund.

**Florida**

Proceeds from the issuance of plates or tags to the state highway/road/transportation fund. Fees for operator type licenses are collected and credited to the state revenue fund or general revenue fund (less \$5.25 fee for issuance or renewal of driver's license, with \$4.25 of this going to the Local Tax Collectors and \$1 to the Highway Safety Operating Trust Fund; and less \$10 or \$25 per reinstatement of a driver's license to the credit of the Highway Safety Operating Trust Fund; \$.50 per license automatically goes into the State General Revenue Fund, as does the remainder from proceeds after deductions noted). Proceeds from certificate of title fees are credited to the highway/transportation/road fund (fees are apportioned as follows: for vehicles previously titled outside of Florida: \$4 is credited to the Nongame Wildlife Trust Fund; for regular titling fees: \$4.25 for processing titles and \$1 for cost of security is credited to the County Tax Collector; \$1 per title is credited to the Highway Safety Operating Trust Fund; and of \$21, 7% is credited to the State General Revenue Fund; 93% is credited to the State Transportation Trust Fund; and \$2 to the State General Revenue Fund).

Proceeds from the sale of dealer's licenses are credited to the Highway Safety Operating Trust Fund. Supervision and Inspection fees are deposited as follows: \$25

inspection fee is credited to the Department of Transportation, and an emission fee is credited 7.30% to the State General Revenue Fund and 92.70% to the Highway Safety Operating Trust Fund.

### **Georgia**

A flat fee of \$20 is charged for regular automobile registrations in the state. For commercial trucks, fees are based on weight; the typical truck fee is \$25. For farm trucks, there is a flat registration fee of \$20. A twenty five percent of regular fee plus \$1 is charged as a late fee on registrations. All funds from registration fees (plates and tags) are credited to the state general fund less \$1 per license plate for the tag agent (unless the agent is a salaried employee earning over \$7,999 per year; if this is the case, then the \$1 is reverted to the general fund of the county). The county is also credited with \$.25 per plate if the county issues more than 4,000 license plates. For special license plates, a \$25 manufacturing fee is assessed and an additional \$25 per plate is assessed for each annual registration. As per the Office of the Treasury and Fiscal Services, the county commissioner must return the fees collected under this category to the State Treasury within 30 days of collection.

Fees for operator type licenses are collected and credited to the state revenue fund or general revenue fund. Proceeds from certificate of title fees are credited to the general fund or general revenue fund of the state. Certificate of permit fees are deposited into the state general fund or general revenue fund. Supervision and Inspection fees are credited to the state general fund or general revenue fund.

### **Hawaii**

Registration fees are credited to the state transportation/highway/road fund (less the amount required to the Department of Transportation). Proceeds from issuing

certificate of title fees are credited to the Public Service Commission. Proceeds from fines and penalties are credited to the Driver Education and Training Fund, \$7 levy for violations. Dealer's fees are credited to the state general fund. Proceeds from supervision and inspection fees are credited to the Public Utilities Commission.

### **Idaho**

Registration fees are assessed and deposited into the state transportation/highway/road fund (less \$2 per recreational vehicle license that is credited to the County Current Expense Fund; remaining registration fees are credited 99% to the State Recreational Vehicle Account; 1% is credited to the Search and Rescue Account; \$1.75 of \$3 license plate issuing fee is credited to the Plate Manufacturing Account; \$.25 per motor vehicle registration is credited to the counties; \$1 per motor vehicle registration fee is credited to the Emergency Medical Services Account; the remainder of fees are credited to the Highway Distribution Account).

Operator's license fees are credited to the state transportation/highway/road fund (less \$5 per operator license, \$3 per exam fee, \$2 motorcycle endorsement fee; \$5 of motorcycle endorsement exam fee; and a portion of the driver training class are credited to the County Current Expense Fund; less \$2 per operator license for the Emergency Medical Services Account II; \$16.50 per license to the State Highway Account; \$5.30 per Class D license to the Driver Training Account; \$1 to the Motorcycle Safety Program Fund; and the remainder to the Highway Distribution Account). Proceeds from issuing certificate of title fees are credited to the state transportation/highway/road fund.

Dealer's fees are credited to the state transportation/highway/road fund (less \$10 per dealer's license to the County Current Expense Fund).

**Illinois**

Deposits proceeds from registration fees collected into the state highway/road/transportation fund (less 37% of registration fees to the State Construction Account Fund; \$8 per annual (\$4 per semiannual) motorcycle registration for the Cycle Rider Safety Training Fund; \$25 per environmental license plate to the State Parks Fund.) Proceeds from issuing operator type licenses are deposited to the state highway/road/transportation fund (less \$5.00 per license to the Driver Education Fund; \$6 per commercial driver's license to the CDLIS/AAMVAN Trust Fund; \$30 per driver's license reinstatement to the Drunk and Drugged Driving Prevention Fund.) Deposits proceeds from issuing certificates of title to the state general fund or general revenue fund (less \$2 per certificate of title to the Park and Conservation Fund.) Funds derived from dealer's licenses are credited to state highway/road/transportation fund. Proceeds from transfer and registration fees are credited to the state highway/road/transportation fund. Certificate or other permit fees are credited to the state highway/road/transportation fund.

**Indiana**

Deposits proceeds from registration fees collected into the state highway/road/transportation fund (less \$1.25 per registration for the Branch Offices at the Bureau of Motor Vehicles; \$.25 per registration for the State Police Building; \$5 per motorcycle registration for the Motorcycle Operator Safety Education Fund.) Proceeds from issuing operator type licenses are deposited to the state highway/road/transportation fund (less \$1.25 per driver's license to the Branch Offices at the Bureau of Motor Vehicles.)

Deposits proceed from issuing certificates of title to the highway/road/transportation fund (less \$1 per title for the Branch Offices at the Bureau of Motor

Vehicles; \$.25 for the State Police Building.) Funds derived from dealer's licenses are credited to the Motor Vehicle Odometer Fund as follows -- Motor Vehicle Highway Account - 40%, Bureau of Motor Vehicles - 30%, State Police - 20%, and the Attorney General - 10%. Proceeds from transfer and registration fees are credited to the state highway/road/transportation fund (less \$1 per transfer for the Branch Offices of the Bureau of Motor Vehicles.) Certificate or other permit fees are credited to the state highway/road/transportation fund.

**Iowa**

Deposits 4% of the proceeds from registration fees collected to the County Treasurers and the remainder to the Road User Tax Fund. Proceeds from issuing operator type licenses are deposited to the Road User Tax Fund. Deposits proceeds from issuing certificates of title to the Road User Tax Fund (less \$2.50 per title to the County Treasurers.) Funds derived from dealer's licenses are credited to the Road User Tax Fund. Proceeds from transfer and registration fees are credited to the Road User Tax Fund. Certificate or other permit fees are credited to the Road User Tax Fund.

**Kansas**

Deposits proceeds from registration fees collected into the state highway/road/transportation fund (less \$3.00 per registration to the County Treasurers.) Deposits proceed from issuing certificates of title to the highway/road/ transportation fund. Funds derived from dealer's licenses are credited to state highway/road/transportation fund. Proceeds from transfer and registration fees are credited to the state highway/road/transportation fund (less \$.75 per transfer.)

**Louisiana**

Proceeds from the issuance of plates or tags to a state highway/road/transportation fund (less an amount not to exceed \$250,000 to the credit of the Department of Public

Safety and all receipts from the six parishes bordering Lake Ponchartrain which are credited to the State Highway Fund No. 2.) Certificate of permit fees are credited to the Bond Security and Redemption Fund. Supervision and Inspection fees are credited as follows: \$4 per inspection to the Office of State Police; \$1.25 per inspection to the Office of Motor Vehicles; remainder to the Bond Security and Redemption Fund.

### **Maine**

The registration fee for automobiles is a flat fee of \$23.00. Commercial truck registration fees are based on the weight of the truck; a typical fee paid is \$186. Farm trucks pay a \$99 registration fee and trucks over 54,000 pounds are assessed a fee of \$355. Four dollars per registration is credited to the Municipal Tax Collectors for administering the registration program. All remaining funds are credited to the General Highway Fund within the Department of Transportation. The types of funds used in Maine are the General Fund, General Highway Fund, Special Transportation Fund, and a Local Road Assistance Program. The General Highway Fund is used first to pay interest on and retire debt related to highways and bridges; remaining funds are appropriated by the legislature. General Highway Funds are used only for licensing and registration expenses, state police expenses, administrative expenses for the Transportation Department, administration of the fuels taxes, maintenance and construction on highways and bridges, and for snow removal.

Deposit proceeds from operator type licenses fees into highway/road transportation funds. Certificate of Title fees are credited to the highway/road/transportation funds. Funds collected from the transfer and registration fees are credited to the highway/road/transportation funds. The proceeds collected from Supervision and Inspection fees are credited to the highway/road/transportation funds.

## **Maryland**

Maryland registration fees are based on the weight of the vehicle. Typical automobile registration fees are \$35.00; the range is \$35.00 to \$48.50. For commercial (non-farm) trucks, manufacture rated at  $\frac{3}{4}$  ton or less, the registration fee is \$33.75. For other commercial trucks, the fee ranges from \$47.50 for trucks with a minimum gross vehicle weight of 10,000 pounds to \$940.00 for trucks with a maximum gross vehicle weight of 80,000 pounds. The typical fee for non-farm commercial trucks is \$165.50. For farm trucks, the typical fee is \$115.75 and is determined by \$2.75 per 1,000 pounds of gross registered weight; \$27.50 (minimum gross weight of 10,000 pounds) to \$195.00 (maximum gross weight of 65,000 pounds).

Eight Dollars per registration is allocated to the Emergency Medical System Operations Fund and the remainder of registration fee proceeds is credited to the Gasoline and Motor Vehicle Revenue Source. The Gasoline and Motor Vehicle Revenue Source Fund is housed within the state's Transportation Trust Fund.

Maryland deposits operator-licensing proceeds into the Transportation Trust Fund. These proceeds are divided as follows: An amount required is credited to the State Comptroller; \$6 per learner's permit is credited to the Driver Education Account; the remainder of the funds are credited to the Department of Transportation (the Transportation Trust Fund houses a Right of Way Revolving Fund to pay for the cost of acquiring property, limited to \$5 million per year).

Proceeds from certificate of title fees are credited to the highway/transportation/road fund (less amount retained from each certificate of title for those vehicles within the state subject to inspection; after \$14 is deposited into the State General Fund and \$5 to Baltimore City from each security interest filing fee, the

remainder is credited to the Transportation Trust Fund). Supervision and Inspection Fees are credited to the account of the Department of Transportation less amounts required for the Transportation Trust Fund and the State Comptroller.

### **Massachusetts**

Massachusetts assesses a \$30 flat fee for automobile registration. This fee is a lifetime assessment. Both farm and non-farm trucks registration is based on weight of the truck and is typically about \$300. Two dollars per motorcycle registration is deposited to the credit of the Motorcycle Safety Fund, and the remaining funds are credited to the state Highway Fund. Funds within the Highway Fund are appropriated for maintenance and repair of roads, for construction of highways, for engineering services and snow removal, to pay interest and principal on outstanding bonds, maintenance of state police, and other infrastructure needs.

Deposit proceeds from operator type licenses fees into highway/road transportation funds. Certificate of Title fees are credited to the highway/road/transportation funds. Funds collected from the transfer and registration fees are credited to the highway/road/ transportation funds.

### **Michigan**

Registration fees for automobiles and light trucks are based on the manufacturer's list price of the vehicle and range from \$29 to \$211, with an average fee of \$58.00. Fees for commercial trucks are based on truck weight and are typically \$190 (non-farm) and \$55 (farm). Except for \$3 per registration credited to the Motorcycle Safety fund, Michigan credits proceeds from registration fees to the Michigan Transportation Fund. The Michigan Transportation Fund is a separate account within the state treasury. The

fund is used for the maintenance and establishment of state highways, and for the payment of principal and interest on bonds (not to exceed \$3,000,000).

Operator's license fees are disbursed in the following manner: \$2.50 per original driver's license and \$1 for other licenses is credited to cities and municipalities; \$4 for each four-year license and \$2 for each two-year license is deposited into the Driver Education Fund (\$45 per student is distributed to schools, not to exceed actual cost of driver education programs, plus \$100,000 is given annually to the Department of Education). Two dollars and fifty cents for each two-year motorcycle license renewal is credited to the Motorcycle Safety Fund. The state general fund receives \$2.5 million in deposits, with not more than \$1 million to the Gasoline Inspection and Testing Fund. Five percent or \$120,000 of road test fees, whichever is greater, is credited to the Transportation Economic Development Fund. Any remaining funds after these deductions are credited to the state General Fund.

Deposits proceeds from issuing certificates of title to "other" accounts – \$.50 per certificate of title to the Scrap Tire Regulatory Fund and an additional \$.50 scrap or salvage vehicle certificate of title fee, which is credited to the vehicle theft prevention account. Funds derived from dealer's licenses are credited to state highway/road/transportation fund. Proceeds from transfer and registration fees are credited to the state highway/road/transportation fund. Certificate or other permit fees are credited to the state general fund or state general revenue fund (by appropriation, the remainder of the funds are credited to the Transportation Economic Development Fund.)

### **Minnesota**

The required amount of the proceeds from registration fees collected are credited to the Department of Public Safety and Revenue Account and the remainder is credited to

the Highway User Tax Distribution Fund. Proceeds from issuing operator type licenses are deposited to the state highway/road/transportation fund (less \$3.50 per driver's license to the credit of the Court Administrators; \$8 per duplicate license, \$7 per renewal to the Motorcycle Safety Fund, but funds in excess of \$750,000 are credited 90% to the Truck Highway Fund and 10% to the General Fund; in addition the remainder of duplicate and renewal fees collected are deposited to the credit of the state general fund.)

Deposits proceeds from issuing certificates of title to the Transportation Services Fund (State Patrol Motor Vehicle Account.) Funds derived from dealer's licenses are credited to the state general fund or general revenue fund. Proceeds from transfer and registration fees are credited to the Highway User Tax Distribution Fund. Certificate or other permit fees are credited to the Highway User Tax Distribution Fund.

### **Mississippi**

Proceeds from the issuance of plates or tags to a state highway/road/transportation fund (less legislated appropriations to the County Tax Collector and additional fees to the credit of Counties and cities). Fees for operator type licenses are collected and credited to the state revenue fund or general revenue fund (less \$7 per operator's license and \$4 per Class D commercial license for the Highway Safety Patrol). Proceeds from certificate of title fees are credited to the general fund or general revenue fund of the state (less an appropriated amount to the State Tax Commission).

Proceeds from the sale of dealer's licenses are credited to a fund intended for a transportation/highway/road fund-type use (less amounts designated for the County Tax Collector, counties and cities, and county road fund). Certificate of permit fees are deposited to the credit of the Public Service Commission. Supervision and Inspection fees are credited to the state general fund or general revenue fund.

**Missouri**

Deposits proceeds from registration fees collected into the state highway/road/transportation fund (less 15% to the incorporated cities and towns and 10% to the County Aid Trust Fund.) Proceeds from issuing operator type licenses are deposited to the state highway/road/transportation fund (less fees in effect prior to 1980 that go to the State Highways and Transportation Department fund. The remainder, 75% is credited to the State Road Fund, 15% to the Incorporated Cities and Towns, and 10% to the County Aid Trust Fund.)

Deposit proceeds from issuing certificates of title to the highway/road/transportation fund (less an amount designated from prior fees to the State Highways and Transportation Department Fund, with 75% credited to the State Road Fund, 15% to the Incorporated Cities and Towns, and 10% to the County Aid Trust Fund.) Funds derived from dealer's licenses are credited to state highway/road/transportation fund (less a designated amount for prior fees to the State Highways and Transportation Department Fund in the same manner as described for registration fees above.) Proceeds from transfer and registration fees are credited to the state highway/road/transportation fund (similar to registration fees as described above.) Certificate or other permit fees are credited to the state highway/road/ transportation fund (similar to registration fees as described above.)

**Montana**

Registration fees are credited to the state transportation/road/ highway fund (amount required to the County Motor Vehicle Suspense Fund; \$1.50 per registration to the Noxious Weed Management Trust Fund; \$1 per registration to the state general fund for general purposes; \$3.50 per registration for recreational services and facilities in state

parks; and the remainder is divided among the city road funds and the County Road Funds). Operator's license fees are credited to the state general fund or general revenue fund (distributed as follows: 2.5% of driver's license fees and 3.34% of motorcycle fees collected by counties is retained by the counties; 2.5% of driver's license fees and 3.34% of motorcycle fees collected by state is retained by the state; 16.70% to the Highway Patrol Officer's Retirement Pension Trust Fund; 26.25% of driver's and 63.46% of motorcycle fees to the State Traffic Education Account; and 54.55% of driver's and 33.2% of motorcycle fees to the State General Fund).

Proceeds from issuing certificate of title fees are credited to the state transportation/highway/road fund and is divided among county treasurer, \$3.50 per certificate or transfer to the State Motor Vehicle Fund; \$1.50 per certificate to the City/county road fund. Fines and penalties are credited to "other" accounts as follows: 50% are credited to the State Highway Non-restricted Account and 50% to the County Road Funds. Dealer's fees and credited to the state general fund. Supervision and Inspection fees are credited to the state general fund or general revenue fund (less an amount required to the Public Service Commission.

### **Nebraska**

Deposits proceeds from registration fees collected into the state highway/road/transportation fund (less \$1.50 per registration for the State Recreation Fund; \$1.50 per registration for the Department of Motor Vehicles Cash Fund; \$2 per registration for residents (\$4 per registration for non-residents) to the County General Fund; \$1.50 per license plate to the Highway Trust Fund; \$3 per motorcycle registration to the Motorcycle Safety Education Fund; the required amount for the License Plate Cash Fund.) Proceeds from issuing operator type licenses are deposited to the state general

fund/general revenue fund (less \$2.75 per license and \$.25 per learner's permit and less \$2.50 per motorcycle license to the Motorcycle Safety Education Fund.)

Deposits proceeds from issuing certificates of title to "other" accounts – \$3.25 per title to the County General Fund (and \$10 per duplicate copy of title); \$2 per title to the state general fund; \$.20 per title to the attorney general's office – Consumer Protection Division, \$.45 per title to the Nebraska State Patrol Cash Fund; and \$.10 per title for the Nebraska Motor Vehicle Industry Licensing Fund. Funds derived from dealer's licenses are credited to the Motor Vehicle Industry Licensing Fund. Proceeds from transfer and registration fees are credited to "other" accounts in the same manner as registration fees as described above.

### **Nevada**

Registration fees are credited to transportation/highway/road fund (less a maximum \$2 fee assessed in counties without a DMV and Public Safety Office).

Operator's license fees are credited to the state transportation/highway/road fund.

Proceeds from issuing certificate of title fees are credited to the

transportation/highway/road fund. Fines and penalties are credited to the state

transportation/highway/road fund. Dealer's fees are credited to the state

transportation/highway/road fund. Proceeds from supervision and inspection fees are credited in the state transportation/highway/road fund.

### **New Hampshire**

Deposits registration fees into a highway, state road fund, or transportation fund.

(Less \$1 per registration to town clerks and \$1 per motorcycle registration for Motorcycle

Rider Safety Fund) Deposit proceeds from operator type licenses fees into accounts

designated as other. Credits the majority of funds from this source in the Highway Safety

Fund (less \$5 per license to the Driver Training Fund and \$5 per motorcycle license to the Motorcycle Rider Safety Fund.) Certificate of Title fees are credited to the highway/road/transportation funds (less 50% to the general state fund.) Funds collected from the transfer and registration fees are credited to the highway/road/ transportation funds. The proceeds collected from Supervision and Inspection fees are credited to the highway/road/transportation funds (less \$.50 per emissions tested to the credit of the Department of Environmental Services, and \$2.25 to the Vehicle Emission Inspection Account.)

### **New Jersey**

Automobile registration fees are determined based on both the weight and the age of the vehicle. A typical registration fee \$25, with a range of \$25 to \$50. Commercial trucks are assessed a fee based on the weight of the vehicle; the typical truck is charged a fee of \$161.50. Farm trucks pay half of the regular truck fee, plus a \$2.50 inspection fee; the typical farm truck fee is \$80.75. One dollar per registration is credited to the Helicopter Emergency Ambulance Program; a fee determined by the Motor Vehicle Commissioner is credited to Registration and Licensing; and the Transportation Trust Fund receives the greater of \$30 million or an amount equal to the additional truck fees levied by Chapter 73 of the Laws of 1984. The Transportation Trust Fund also receives additional registration fees levied by Subsection A of Section 68 of Public Law (PL) 1990. The remainder of the registration fees is credited to the State General Fund. The Transportation Trust Fund Account is housed within the state general fund, as is a Special Transportation Fund.

Deposit proceeds from operator type licenses fees into the state general fund. (Less administrative fees to the Registration and licensing agency and \$5 per motorcycle

license to the Motorcycle Safety Education Fund.) Certificate of Title fees are credited to the state general fund/general revenue fund. The proceeds collected from Supervision and Inspection fees are credited to the state Department of Transportation.

### **New Mexico**

Registration fees are credited to the state transportation/highway/road fund (less \$3 per registration to the local agents for administration; \$.50 per registration is credited to the Litter Control and Beautification Fund; \$1 per registration tire recycling fee is distributed as 45% to the Rubberized Asphalt Fund, 55% to the Tire Recycling Fund; \$2 per motorcycle registration fee is credited to the Motorcycle Training Fund; and the remaining funds are distributed 43% to the State Road Fund, and 57% further divided as 41.30% to the Sate Road Fund; 17.60% to the County Road Fund; 17.60% to the County Levy; 9.40% to the Municipal Road Fund; and 14.10% to Counties and municipalities).

Operator's license fees are credited to the transportation/highway/road fund (less an amount to the Motor Vehicle Suspense Fund, \$6 per license to the Local Agents, a discretionary fee to the DMV, and \$3 per license to the school districts). Proceeds from issuing certificate of title fees are credited to the state transportation/highway/road fund in a manner similar to registration fees as described above. Dealer's fees are credited to the state transportation/highway/road fund in a manner similar to registration fees as described above.

### **New York**

Registration fees assessed are based on the weight of the vehicle. Typical automobile registration fees are \$24.85; the range is \$17.25 to \$37.00. For commercial (non-farm) trucks, \$2.88 per 500 pounds of gross vehicle weight is assessed, rounded to

the nearest \$.25; the typical non-farm truck fee is \$115.25. For farm trucks, the typical fee is \$80.50 and is determined by usage of the vehicle.

The clerks of the county receive a weight distance tax levied on commercial vehicles licensed or operating under a proportional registration agreement and a mileage tax levied on commercial vehicles not licensed in the state or operating under an existing proportional registration agreement. The remainder of registration fees is distributed as: 20% apportioned to the Dedicated Highway and Bridge Trust Fund. Of this, 80% is broken down by: 10% to the State General Fund, and 90% is further demarcated into \$0.05 per registration to the credit of the Department of Environmental Conservation, and the remaining funds credited to the Department of Transportation. Currently, as described in the Department of Transportation FY2000 budget, 15.5% of the \$29.2 million budget comes from fees such as truck fees.

Deposit proceeds from operator type licenses fees in the same manner as registration fees as described above. A majority of the funds are deposited with the Department of Transportation. Certificate of Title fees are credited in the same manner as registration fees as described above. Funds collected from the transfer and registration fees are credited in the same manner as registration fees as described above. The proceeds collected from Supervision and Inspection fees are credited in the same manner as registration fees as described above.

### **North Carolina**

Proceeds from the issuance of plates or tags to a state highway/road/transportation fund. Fees for operator type licenses are collected and credited to the state highway/transportation/road fund. Proceeds from certificate of title fees are credited to the highway/transportation/road fund (less \$3.50 per title to the State Highway Fund, \$15

per title to the Secondary Roads Paving Program; \$16.50 is credited to the State Highway Trust Fund). Proceeds from the sale of dealer's licenses are credited to a fund intended for a transportation/highway/road fund-type use. Certificate of permit fees are credited to the state transportation/highway/road fund. Supervision and Inspection fees are credited to the state transportation/highway/road fund.

### **North Dakota**

Deposits proceeds from registration fees collected are appropriated to the Motor Vehicle Registration Fund -- \$1 per registration to the Public Transportation Fund; \$5 per registration to the Motorcycle Safety Education Fund, all prorated out-of-state domiciled truck and trailer registration fees to the credit of the State Highway Fund, and the remainder of proceeds to the Highway Tax Distribution Fund. Proceeds from issuing operator type licenses are deposited to the state highway/road/ transportation fund.

Deposits proceeds from issuing certificates of title to the Highway Tax Distribution Fund, with an additional \$2 tax per certificate of title designated for the Abandoned Motor Vehicle Disposal Fund. Funds derived from dealer's licenses are credited in the same manner as registration fees as described above. Proceeds from transfer and registration fees are credited to "other" accounts in the same manner as registration fees as described above.

### **Ohio**

Deposits proceeds from registration fees collected into several "other" accounts (\$2.25 per registration to the Deputy Registrars; \$6 per motorcycle registration to the Motorcycle Safety and Education Fund; the remainder is deposited to the Auto Registration Distribution Fund -- \$.34 designated for Counties and Municipalities, and additional \$.61 for counties, and \$.05 for townships.) Proceeds from issuing operator

type licenses are deposited to the state highway/road/transportation fund (less \$2.25 per license to the Deputy Registrars plus an additional \$1.50 for the vision test.)

Deposits proceeds from issuing certificates of title to “other” accounts – \$2.25 per title to the Clerk of Courts, \$.25 per title to the State Highway Safety Fund, \$.04 to the Motor Vehicle Dealer’s Board Fund, \$.21 per title to the General Revenue Fund, \$.25 per title to the Motor Vehicles Sales Audit Fund, and \$2 per title to the Automated Title Processing Fund. Funds derived from dealer’s licenses are credited to the Department of Highway Safety. Proceeds from transfer and registration fees are credited to “other” accounts as follows: \$2.25 to the Deputy Registrars, and the remainder to the counties and municipalities.)

### **Oklahoma**

Proceeds from plates and/or tags are credited to the state revenue fund or general revenue fund in a manner similar to driver’s license fees as described below. Fees for operator type licenses are collected and credited to the state revenue fund or general revenue fund (and then allocated as follows: \$100,000 to the Tax Commission Reimbursement Fund; \$183,000 to the General Revenue Fund of the state; 35% of proceeds to the School districts; 46.67% to the general revenue fund; .30% to the state transportation Fund; 7% to the counties; 2.50% to the County Road Fund; 3.50% to the County Highway Fund; .80% to counties for general purposes; 3% to cities and incorporated towns; 1.20% to the Oklahoma Law Enforcement Retirement Fund; and .03% to the Wildlife Conservation Fund).

Proceeds from certificate of title fees are credited to the general fund or general revenue fund of the state in a manner similar to driver’s license fees. Certificate of permit fees are credited to the general fund or state general revenue fund in a manner

similar to the registration fees as described above. Supervision and Inspection fees are credited as follows: inspection sticker is credited as \$.50 to the State General Revenue Fund and \$.50 of \$1 to the Oklahoma Law Enforcement Retirement Fund, with \$500,000 designated to the Patrol Vehicle Revolving Fund.

### **Oregon**

Registration fees are credited to the state transportation/highway/road fund (less amounts required to the Department of Transportation, Driver and Motor Vehicles Suspense Account, net revenues from the sale of customized plates to the Environmental Quality Information Account, and registration fees for campers, motor homes, and trailers the proceeds of which are credited to the State and County Parks).

Operator's license fees are credited to the state transportation/highway/road fund as follows: amount required is credited to the DOT; \$4 per license to the Motor Vehicle Accident Fund; \$2 to the Student Driver Training Fund; \$ per motorcycle license to the Transportation Safety Account; \$.25 per license to the Safety Education Fund. Proceeds from issuing certificate of title fees are credited to the state transportation/highway/road fund. Fines and penalties are credited to the state transportation/highway/road fund. Dealer's fees are credited to the state transportation/highway/road fund. Proceeds from supervision and inspection fees are credited to the state transportation/highway/road fund (less the amount required for the Motor Carrier Account within the State General Account).

### **Pennsylvania**

Assesses a flat registration fee of \$24 for automobile registrations. Registration fees for non-farm trucks are based on vehicle weight, a fee of \$39 for 5,000 pounds or less to \$834 for 73,280 is assessed; the typical non-farm truck registration is \$237. For

farm trucks, a fee of \$51 or 1/3 of the standard annual fee for the class, whichever is greater, is assessed. Therefore, the typical farm truck fee is \$78. Registration fee proceeds are credited to the Motor License Fund of the state, less \$2 per motorcycle registration that is credited to the Motorcycle Safety Education Fund and the amount required to the Highway Bridge Improvement Account (within the Motor License Fund).

Deposit proceeds from operator type licenses fees into the Motor License Fund (less \$2 per motorcycle permit to the credit of the Motorcycle Safety Education Fund.) Certificate of Title fees are credited to the Motor License Fund. Funds collected from the transfer and registration fees are credited to the Motor License Fund. The proceeds collected from Supervision and Inspection fees are credited to the Motor License Fund.

### **Rhode Island**

Assesses a flat registration on automobiles of \$30, with an additional \$5 reflectorized plate fee for new plates. The registration fee for trucks under 4,000 pounds is \$34 and the fee is \$972 for 74,000 pound trucks with an additional \$24 per 2,000 pounds over 74,000. Special rates for farm trucks are assessed as a \$10 flat fee. Three dollars per motorcycle registration is credited to the Department of Education, and the remainder is credited to the State General Fund.

Deposit proceeds from operator type licenses fees into the state general fund. Certificate of Title fees are credited to the state general fund/general revenue fund. Funds collected from the transfer and registration fees are credited to the state general fund/general revenue fund. The proceeds collected from Supervision and Inspection fees are credited to the state general fund/general revenue fund.

**South Carolina**

Proceeds from the issuance of plates or tags to a state highway/road/transportation fund. Proceeds from certificate of title fees are credited to the highway/transportation/road fund. Proceeds from the sale of dealer's licenses are credited to a fund intended for a transportation/highway/road fund-type use. Supervision and Inspection fees are credited the state transportation/highway/road fund.

**South Dakota**

Deposits the proceeds from registration fees collected are credited to "other" accounts. Credits an additional \$3 per motorcycle registration to the Special Revenue Fund; \$2 per snowmobile registration to the Motor Vehicle Fund; \$18 per snowmobile registration to the Snowmobile Trails Fund, \$.25 per tire on registered vehicle (maximum of \$1) to the Waste and Environmental Fund; the remainder of the registration fees are allocated as follows: 2% to the Motor Vehicle Fund, 25% to the License Plate Special Revenue Fund, 54% to the Local Government Highway and Bridge Fund, 22.5% to the County General Fund, 14% to the County Special Highway Fund and 5% to the municipalities.

Proceeds from issuing operator type licenses are deposited to the Motor Vehicle Fund. Deposits proceeds from issuing certificates of title to the highway/road/transportation. Funds derived from dealer's licenses are credited to the Motor Vehicle Fund. Proceeds from transfer and registration fees are credited to the Motor Vehicle Fund. Certificate or other permit fees are credited to the state general fund or state general revenue fund.

**Tennessee**

Proceeds from the issuance of plates or tags to a state highway/road/transportation fund (less \$2.50 per registration for the County Court Clerks for administration; \$2 per

motorcycle registration for the Motorcycle Rider Safety Fund; \$1 per registration for the Police Pay Supplement Fund; a 2.5% additional fee levied on freight motor carriers which is credited to the Motor Vehicle Account; 95% of mobile home registration fees credited to the Counties and cities; the remainder of vehicle registration fees are credited in the amount of 2% to the State General Fund and 98% to the Highway Fund.)

Fees for operator type licenses are collected and credited to the state revenue fund or general revenue fund (less \$1 per two and four year operator's and chauffeur's licenses for the Police Pay Supplement Fund; \$1 per motorcycle operator's license to the Motorcycle Rider Safety Fund; \$2 per operator's and chauffeur's license fee to the credit of the Department of Safety). Proceeds from certificate of title fees are credited to the general fund or general revenue fund of the state (less \$3 per title to the credit of the county clerks; \$.50 per title to the Division of Motor Vehicles; and of an additional \$5 per title, \$1.50 per title is deposited with the Division of Motor Vehicles and the remainder is deposited with the Department of Environment and Conservation. All remaining proceeds are credited to the State General Fund). Proceeds from the sale of dealer's licenses are credited to a fund intended for a transportation/highway/road fund-type use. Certificate of permit fees are credited to the state transportation/highway/road fund. Supervision and Inspection fees are deposited in the Motor Vehicle Account, less a 10% maximum to the Highway Patrol and a remainder to the Public Service Commission.

### **Texas**

Automobile registration fees range is \$40.80 to \$58.80, depending on the age of the vehicle. Typical trucks pay \$180.07(non-farm) and \$95.10 (farm). One dollar and ninety cents per registration is credited to the County Assessor/ Tax Collector and an additional \$6 fee per registration is credited to the All-Terrain Vehicle Safety Fund.

Proceeds of registration fees up to \$360,000 are credited to the County Road and Bridge Fund. The remainder of fees, plus an additional \$15 fee for tow truck license plates is credited to the State Highway Fund.

Fees for operator type licenses are collected and credited to the state revenue fund or general revenue fund. Proceeds from certificate of title fees are credited to the highway/transportation/road fund (less \$5 per certificate to the credit of the County Assessor/Tax Collector; \$4 per certificate to the general revenue fund). Proceeds from the sale of dealer's licenses are credited to a fund intended for a transportation/highway/road fund-type use. Supervision and Inspection fees are credited to the Motor Vehicle Inspection Fund.

#### **Utah**

Registration fees are credited to the state highway/road/transportation fund (less off-highway vehicle registration fees which are credited to the Off Highway Vehicle Account; \$10 per motorcycle, vintage vehicle, or commercial registration fee, or \$10 per commercial sub-trailer; \$1 per trailer, semi-trailer, commercial trailer, or truck registration fee to the credit of the Centennial Highway Trust Fund; \$5 per motorcycle registration to the Motorcycle Rider Education Fund; \$2.50 per fee to the Driver's Education Tax Account; \$1 to the Uninsured Motorist Account).

Operator's license fees are credited to the state transportation/highway/road fund (less \$2 per motorcycle license to the Motorcycle Rider Education Fund). Proceeds from issuing certificate of title fees are credited to the state transportation/highway/road fund. Fines and penalties are credited "other" accounts as follows: credits Class B and C road funds with overweight truck fines. Dealer's fees are credited to the state general fund. Supervision and Inspection fees are credited to the State Highway Patrol.

**Vermont**

Deposits registration fees into a highway, state road fund, or transportation fund.

Deposit proceeds from operator type licenses fees into highway/road transportation funds. Certificate of Title fees are credited to the highway/road/ transportation funds. Funds collected from the transfer and registration fees are credited to the highway/road/transportation funds.

**Virginia**

Proceeds from the issuance of plates or tags are credited to the state highway/road/transportation fund (less \$1.50 per registration for the Department of Motor Vehicles Special Fund for Emergency Medical Services; \$2 per registration which is divided as 2.5% to Virginia Association of Volunteer Rescue Squads, 13.5% to State Department of Health for training, recruitment, and retention, 31.75% to the Rescue Squad Assistance Fund, and 27.25% to State Department of Health for Medical Services; \$2 per registration in certain localities for the Emissions Inspection Program; \$3 per motorcycle registration for the Motor Rider Safety Training Program Fund; the remainder of registration fees are allocated as 20% of remainder to the Motor Vehicle Special Fund, Transportation Trust Fund, and the Highway Maintenance Operating Fund).

Fees for operator type licenses are collected and deposits \$1.50 per operator's license into the Driver Education Fund and an amount required into the Motor Vehicle Dealer Board Fund, depositing any remaining funds into the Motor Vehicle Special Fund. Proceeds from certificate of title fees are credited to "other" accounts in a manner similar to driver's license fees as described above. Proceeds from the sale of dealer's licenses are credited to the Motor Vehicle Special Fund (less designated amounts). Certificate of

permit fees are credited to the state transportation/highway/road fund. Supervision and Inspection fees are credited to the Department of Environmental Quality.

### **Washington**

Registration fees are credited to “other” accounts as follows: Combined Vehicle license fees are distributed as \$2 per registration plus an additional \$1 fee to the Highway Safety Fund; 23.68% of the remainder to the State Patrol; 1.52% of the remainder to the Puget Sound Ferry Operations Account; and the remainder to the Motor Vehicle Fund; all other registration fees are credited as: \$50 per registration to the Department of Licensing Services Account; \$.10 per registration to the State Department of Transportation; \$3 per recreational vehicle registration to the RV Account; \$3 per registration to the Issuing agency; \$2 per registration to the Air Pollution Control Account; all fees from San Juan and 50% from Island County to the Island Counties; \$20.35 per registration to the State Patrol; and of the remaining proceeds, 27.30% is credited to the Puget Sound Ferry Operations Account and 72.70% is credited to the State Department of Transportation.

Operator’s license fees are credited to “other” accounts as follows: \$8 per original motorcycle fee and \$14 for renewal to the Motorcycle Safety Education Account and \$14 per original or renewal license to the Highway Safety Fund. Proceeds from issuing certificate of title fees are credited to the Motor Vehicle Fund, with \$4 credited to the counties. Dealer’s fees are credited to the Motor Vehicle Fund. Proceeds from supervision and inspection fees are credited to the Motor Vehicle Fund.

### **West Virginia**

Proceeds from the issuance of plates or tags to a state highway/road/transportation fund (less the amount required to the credit of the Motor Vehicle Department; \$2 per motorcycle registration for the Motorcycle Safety Fund; less \$2 per motorcycle

registration for the Motorcycle License Examination Fund; \$1 per registration credited to the Highway Litter Control Fund.)

Fees for operator type licenses are collected and credited to the state highway/transportation /road fund (less motorcycle learner's permit fees which are credited to the Motorcycle License Examination Fund; \$3 of learner's permit fees to the credit of the state general fund; motorcycle driver license to the Motorcycle Safety Fund; less \$.50 per driver's license to the Combined Voter Registration and Driver's Licensing Fund). Proceeds from certificate of title fees are credited to the highway/transportation/road fund. Proceeds from the sale of dealer's licenses are credited to a fund intended for a transportation/highway/road fund-type use. Supervision and Inspection fees are credited to the state transportation/highway/road fund (less the required allocation credited to the Department of Public Safety).

### **Wisconsin**

Deposits proceeds from registration fees collected into the state highway/road/transportation fund (less any amount required for the revenue bond account.) Proceeds from issuing operator type licenses and issuing certificates of title are deposited to the state highway/road/transportation fund. Funds derived from dealer's licenses are credited to state highway/road/transportation fund. Proceeds from transfer and registration fees are credited to the state highway/road/transportation fund. Certificate or other permit fees are credited to the state highway/road/transportation fund.

### **Wyoming**

Registration fees are credited to the state transportation/highway/road fund (less \$7 per motorcycle registration that is credited to the Motorcycle Safety Program Fund;

50% of duplicate registrations, plates, and stickers are credited to the County General Fund; remaining proceeds are credited to the State Highway Fund).

Operator's license fees are credited to the state highway/road/transportation fund (less \$3 per motorcycle registration to the Motorcycle Safety Program Fund). Proceeds from issuing certificate of title fees are credited to the state transportation/highway/road fund (less \$3 per title to the county general fund; \$1 per title to the County Abandoned Vehicle Account). Fines and penalties are credited to the state transportation/highway/road fund. Dealer's fees are credited to the state transportation/highway/road fund. Proceeds from supervision and inspection fees are credited to the state transportation/highway/road fund.

**Washington, D.C.**

Proceeds from plates and/or tags are credited to the general revenue fund. Fees for operator type licenses are collected and credited to the general fund or general revenue fund. Proceeds from certificate of title fees are credited to the general fund or general revenue fund. Proceeds from the sale of dealer's licenses are credited general fund or general revenue fund. Supervision and Inspection fees are credited to the general fund or general revenue fund.

## **APPENDIX C: Highway Needs**

The National Quality Initiative (NQI) is a cooperative alliance that began in 1992 and includes the entire highway industry, such as the FHWA, American Public Works Association, American Association of State Highway and Transportation Officials, and other industry groups. In 1995, the NQI surveyed highway users to rate their satisfaction with major U.S highways and their personal priorities with regard to highway improvements. While certain areas did well, like adequacy of signs and landscaping, the three lowest rated highway elements were travel delays, traffic congestion, and maintenance response time for pavement repairs. These concerns were confirmed when participants were asked to state their priorities for improvements. The three highest priorities were safety, pavement conditions, and traffic flow (NQI, 1995).

The United States' transportation system is still regarded as one of the more efficient systems in the world. However, users of the system contribute to its congestion, which increases travel time and depreciation, which necessitates maintenance expenditures. According to the USDOT, vehicle miles traveled (VMT) increased in all highway categories between 1985 and 1995. Rural VMT increased 2.5 percent per year, and the urban VMT increased 3.6 per year during that ten-year period. Trailer and semitrailer trucks accounted for 16.5 percent of the total travel on rural interstate highways but only 5.4 percent of travel on urban interstate highways in 1995 (USDOT, 1997).

According to a report from the United States Department of Transportation (USDOT) regarding the 1997 condition and performance of the nation's highways, some improvements in the nation's highways and bridges does exist but more work is still

needed (USDOT, 1997). The International Roughness Index (IRI) indicates the conditions of interstate highways. The lower IRI represents smoother riding interstates. The percent of poor pavement conditions in rural interstates have improved from 6.9 to 5.1 percent, but poor pavement has increased from 9.5 to 9.8 percent of the urban interstates from the 1993 to 1995 period. Only 28.4 percent and 11.6 percent of the miles of urban interstate were categorized as having good and very good pavement roughness, respectively. Almost 10 percent were categorized as poor, 26.5 percent as mediocre, and 23.7 percent as fair roughness. Table 3.1 and Table 3.2 demonstrate urban and rural interstate roughness by state using the International Roughness Index, respectively.

State	Urban Interstate									Total Reported
	Not Reported	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	
Alabama	0	22	127	70	44	35	5	0	0	303
Alaska	0	0	14	26	9	4	0	0	0	53
Arizona	0	65	66	26	13	2	0	0	0	172
Arkansas	12	4	9	24	27	38	19	11	6	138
California	0	24	146	195	288	231	103	62	18	1,067
Colorado	0	3	50	35	43	33	16	4	0	184
Connecticut	0	0	88	73	39	24	9	6	5	244
Delaware	0	0	7	11	8	3	6	3	3	41
Dist. Of Columbia	0	0	1	1	4	1	1	1	2	11
Florida	49	63	163	83	113	43	3	0	0	468
Georgia	326	47	60	4	0	0	0	0	0	111
Hawaii	46	0	0	0	0	2	1	0	0	3
Idaho	0	18	35	10	9	10	0	1	0	83
Illinois	0	33	124	201	147	72	41	23	5	646
Indiana	2	25	116	79	40	16	26	8	6	316
Iowa	13	0	48	41	19	8	18	0	0	134
Kansas	4	13	78	60	16	4	0	0	0	171
Kentucky	0	60	83	38	25	16	4	2	0	228
Louisiana	0	1	62	74	64	45	17	7	12	282
Maine	3	10	35	3	1	0	0	0	0	49
Maryland	0	5	127	56	29	14	11	5	5	252
Massachusetts	3	3	196	145	37	14	5	1	1	402
Michigan	0	23	192	117	88	49	19	12	2	502
Minnesota	0	29	125	50	19	8	1	0	0	232
Mississippi	0	0	12	28	57	20	3	5	0	125

**Table 3.1: Continued**

State	Urban Interstate									Total Reported
	Not Reported	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	
Missouri	0	5	104	126	79	33	11	8	4	370
Montana	0	4	27	15	6	2	0	1	0	55
Nebraska	0	10	15	6	4	5	4	1	0	45
Nevada	0	14	27	13	15	10	1	0	0	80
New Hampshire	0	11	29	8	0	0	0	0	0	48
New Jersey	17	0	26	72	35	44	46	17	44	284
New Mexico	0	0	34	10	13	21	12	9	9	108
New York	4	0	258	131	79	66	58	31	75	698
North Carolina	0	0	59	63	106	54	29	27	12	350
North Dakota	0	13	18	9	0	0	0	0	0	40
Ohio	0	150	387	146	32	19	4	2	3	743
Oklahoma	0	3	59	44	32	30	19	11	9	207
Oregon	0	1	18	78	40	8	1	0	0	146
Pennsylvania	3	3	146	170	126	54	25	15	8	547
Rhode Island	47	0	0	0	0	0	0	0	0	0
South Carolina	0	6	90	34	19	6	1	0	0	156
South Dakota	13	0	3	6	8	16	1	2	0	36
Tennessee	229	5	46	28	12	10	3	3	2	109
Texas	0	84	466	288	129	53	2	1	3	1,026
Utah	0	36	61	51	15	6	0	0	0	169
Vermont	0	1	28	10	0	0	0	0	0	39
Virginia	0	2	94	155	93	30	8	7	3	392
Washington	0	7	42	65	75	29	27	14	4	263
West Virginia	0	15	46	11	10	5	3	0	1	91
Wisconsin	0	9	23	33	51	37	12	5	2	172
Wyoming	0	7	37	19	17	5	1	0	0	86
U.S. Total	771	834	4,107	3,041	2,135	1,235	576	305	244	12,477
Mean	15.12	16.35	80.53	59.63	41.86	24.22	11.29	5.98	4.78	244.65
Standard Deviation	55.61	27.25	91.25	62.57	51.87	35.31	18.41	10.77	12.22	243.54

Source: Compiled from FHWA Table HM-64, 1997.

**Table 3.2: International Roughness Index (IRI) 1997**

State	Rural Interstate									Total Reported
	Not Reported	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	
Alabama	0	75	367	95	42	21	0	0	0	600
Alaska	0	1	174	336	332	92	81	13	5	1,034
Arizona	0	602	304	48	30	6	0	0	7	997
Arkansas	18	0	53	44	85	84	50	40	22	378
California	0	7	608	299	235	124	40	13	27	1,353
Colorado	0	17	193	163	167	81	102	17	29	769
Connecticut	0	0	55	22	17	3	3	0	2	102
Delaware	0	0	0	0	0	0	0	0	0	0

State	Rural Interstate									Total Reported
	Not Reported	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	
Dist. of Columbia	0	0	0	0	0	0	0	0	0	0
Florida	15	168	265	182	246	78	0	0	0	939
Georgia	606	90	98	13	1	0	0	0	0	202
Hawaii	5	0	0	0	0	0	0	0	0	0
Idaho	0	168	271	69	11	2	7	0	1	529
Illinois	0	58	553	435	274	174	22	2	0	1,518
Indiana	0	96	522	129	27	77	1	0	0	852
Iowa	9	50	331	179	65	0	0	0	0	625
Kansas	0	223	274	78	77	30	17	0	0	699
Kentucky	0	163	192	46	88	47	0	0	0	536
Louisiana	0	25	201	137	117	92	13	3	23	611
Maine	50	86	158	17	2	0	0	0	0	263
Maryland	0	2	138	75	7	7	0	0	0	229
Massachusetts	0	5	112	39	1	1	2	1	0	161
Michigan	0	70	286	186	122	43	23	8	1	739
Minnesota	0	96	207	235	106	15	23	0	0	682
Mississippi	0	12	223	147	67	77	23	5	5	559
Missouri	0	40	365	270	102	14	1	0	17	809
Montana	0	275	578	154	76	43	5	5	0	1,136
Nebraska	0	172	81	53	69	43	19	0	0	437
Nevada	0	227	142	44	24	12	21	4	4	478
New Hampshire	0	25	149	3	0	0	0	0	0	177
New Jersey	6	0	32	34	18	6	12	8	3	113
New Mexico	0	2	185	216	279	113	48	33	16	892
New York	0	0	521	151	79	26	10	2	7	796
North Carolina	0	10	47	152	168	169	68	24	1	639
North Dakota	0	73	301	118	38	0	0	0	0	530
Ohio	0	218	477	101	31	3	0	0	0	830
Oklahoma	0	81	351	146	105	14	22	1	1	721
Oregon	0	0	222	295	58	5	0	0	0	580
Pennsylvania	0	78	476	307	194	65	33	27	22	1,202
Rhode Island	21	0	0	0	0	0	0	0	0	0
South Carolina	0	120	299	174	70	8	0	0	0	671
South Dakota	13	9	171	136	123	127	43	6	0	615
Tennessee	638	20	54	12	12	0	0	0	0	98
Texas	0	770	1,104	230	63	29	0	0	12	2,208
Utah	0	359	285	96	30	1	0	0	0	771
Vermont	0	45	171	24	21	18	0	0	0	279
Virginia	0	6	360	280	56	9	3	0	0	714
Washington	0	27	146	151	120	34	16	7	0	501
West Virginia	1	53	219	79	62	39	3	3	0	458
Wisconsin	0	44	185	171	126	43	5	0	0	574

State	Rural Interstate									Total Reported
	Not Reported	< 60	60-94	95-119	120-144	145-170	171-194	195-220	> 220	
Wyoming	0	251	369	134	52	19	0	0	0	825
U.S. Total	1,382	4,919	12,875	6,505	4,095	1,894	716	222	205	31,431
Mean	27.10	96.45	252.45	127.55	80.29	37.14	14.04	4.35	4.02	616.29
Standard Deviation	121.71	148.59	200.33	102.25	80.92	45.25	22.51	8.90	7.89	418.44

Source: Compiled from FHWA Table HM-64, 1997.

The conditions of the bridges are also significant. From 1990 to 1996 the percentage of deficient interstate bridges declined from 28.6 percent to 24.8 percent. Arterial bridges also experienced a decline in deficient bridges during this time period from 31.7 percent to 27.6 percent.

Congestion as measured by peak hour on arterial highways in urban areas has increased since 1990. To measure congestion, the Volume- service flow (V/SF) ratio is commonly used in transportation. However, the V/SF ratio as a measure of congestion only measures the severity of the peak-hour, not the duration of the congestion. The V/SF has increase from 49.7 to 52.2 percent from 1990 to 1995. The higher the ratio, the more congested the roads. A V/SF ratio of .80 is an indicator of significant interference in travel flow.

The V/SF<sup>20</sup> changes for both urban and rural interstates are given in Table 3.3 and Table 3.4,<sup>21</sup> respectively. These tables give some indication of changes in congestion in individual states for the three-year period 1996 through 1998. For example, Table 3.2 indicates that California saw an increase of 74 miles of urban principal arterials (126-52)

<sup>20</sup> V/SF is susceptible to state-to-state variability when looked at the ratio for a single year. However, one can observed changes in V/SF ratings within a state over time as a comparison.

<sup>21</sup> Both Table 3.3 and Table 3.4 indicate changes in V/SF over the time period 1996-1998. The numbers in ( ) indicate a reduction of miles of principal arterials for that given V/SF ratio.

with a V/SF ratio of .80 or greater. In contrast, Colorado saw a reduction of 29 miles of urban principal arterials (57-28) with a V/SF ratio of .80 or greater. Nationally, miles of urban principal arterials with a V/SF ratio higher than .80 decreased by 120 miles (272-152), although the highest congestion rating, a V/SF ratio greater than .95, increased 152 miles, which is cause for concern.

State	Urban Principal Arterials (other than Interstates)						Total
	< 0.21	0.21-0.40	0.41-0.70	0.71-0.79	0.80-0.95	> 0.95	
Alabama	5	(9)	(4)	7	(7)	(5)	(13)
Alaska	0	0	4	0	0	(5)	(1)
Arizona	(9)	(12)	0	(21)	13	20	(9)
Arkansas	34	(33)	13	(15)	(10)	10	(1)
California	100	(45)	147	(329)	126	(52)	(53)
Colorado	16	(23)	0	12	(57)	28	(24)
Connecticut	(6)	21	(46)	32	(17)	14	(2)
Delaware	(4)	(19)	18	(6)	7	5	1
Dist. of Columbia	2	(1)	(11)	(18)	9	5	(14)
Florida	4	13	(20)	(37)	(23)	64	1
Georgia	(179)	94	44	39	24	(23)	(1)
Hawaii	(3)	2	(14)	(15)	3	7	(20)
Idaho	(13)	(5)	(13)	4	(3)	(5)	(35)
Illinois	53	(8)	12	(26)	(33)	4	2
Indiana	103	(25)	(95)	(56)	(46)	125	6
Iowa	41	(63)	4	9	1	11	3
Kansas	19	(4)	(15)	(6)	(3)	4	(5)
Kentucky	20	(9)	(5)	8	(9)	(23)	(18)
Louisiana	14	(12)	86	0	31	(76)	43
Maine	4	(20)	(5)	2	7	11	(1)
Maryland	13	33	(91)	29	23	(15)	(8)
Massachusetts	29	16	94	(18)	(88)	(38)	(5)
Michigan	(17)	(26)	211	(91)	(87)	11	1
Minnesota	16	(47)	62	(26)	20	15	40
Mississippi	21	9	7	(20)	(16)	5	6
Missouri	24	1	(99)	57	45	10	38
Montana	11	(9)	1	3	(5)	(1)	0
Nebraska	24	(5)	(4)	(8)	(12)	7	2
Nevada	(2)	7	(9)	12	(7)	4	5
New Hampshire	8	8	(11)	4	(24)	14	(1)
New Jersey	36	58	(113)	47	(16)	(15)	(3)
New Mexico	0	(6)	5	(9)	18	(6)	2
New York	(29)	24	(141)	82	66	77	79
North Carolina	14	32	(20)	(39)	30	(39)	(22)

State	Urban Principal Arterials (other than Interstates)						Total
	< 0.21	0.21-0.40	0.41-0.70	0.71-0.79	0.80-0.95	> 0.95	
North Dakota	6	(12)	(3)	3	1	6	1
Ohio	26	(32)	22	(27)	(37)	73	25
Oklahoma	52	(2)	(41)	11	(36)	17	1
Oregon	(21)	(6)	(8)	(2)	(9)	12	(34)
Pennsylvania	26	69	67	(78)	(50)	(22)	12
Rhode Island	10	10	(31)	(17)	(2)	24	(6)
South Carolina	17	20	(15)	(3)	(23)	4	0
South Dakota	(5)	(10)	(17)	3	7	7	(15)
Tennessee	24	19	(16)	(13)	7	(42)	(21)
Texas	185	38	63	26	(103)	(122)	87
Utah	(2)	14	0	(6)	(13)	(4)	(11)
Vermont	1	(3)	2	3	(6)	2	(1)
Virginia	(4)	35	(46)	(6)	(27)	143	95
Washington	19	9	65	(33)	3	(71)	(8)
West Virginia	(4)	(13)	(17)	5	10	22	3
Wisconsin	46	(9)	7	(49)	47	(46)	(4)
Wyoming	(2)	6	(3)	0	(1)	1	1
U.S. Total	723	70	21	(576)	(272)	152	118
Mean	14.18	1.37	0.41	(11.29)	(5.33)	2.98	2.31
Standard Deviation	44.17	27.79	58.59	54.28	37.08	43.02	27.13

Source: Compiled from FHWA Table HM-61, 1997.

State	Rural Principal Arterials (other than Interstates)						Total
	< 0.21	0.21-0.40	0.41-0.70	0.71-0.79	0.80-0.95	> 0.95	
Alabama	27	16	(52)	0	0	0	(9)
Alaska	2	(7)	7	0	0	0	2
Arizona	21	23	(42)	0	4	(6)	0
Arkansas	186	19	(82)	(60)	(100)	7	(30)
California	38	28	(146)	20	10	64	14
Colorado	21	76	(38)	(53)	16	(19)	3
Connecticut	(7)	2	10	1	2	(7)	1
Delaware	6	21	(49)	3	15	1	(3)
Dist. of Columbia	0	0	0	0	0	0	0
Florida	(118)	(40)	197	4	(33)	1	11
Georgia	(294)	108	42	25	93	30	4
Hawaii	0	(25)	16	2	7	0	0
Idaho	144	(124)	(25)	3	12	1	11
Illinois	103	(75)	(6)	(10)	0	(5)	7
Indiana	50	(20)	(38)	12	(9)	(4)	(9)
Iowa	301	(248)	(61)	(5)	(1)	0	(14)
Kansas	66	(25)	(44)	4	0	0	1
Kentucky	150	(154)	22	(8)	(48)	2	(36)

State	Rural Principal Arterials (other than Interstates)						Total
	< 0.21	0.21-0.40	0.41-0.70	0.71-0.79	0.80-0.95	> 0.95	
Louisiana	(24)	151	(122)	(2)	(6)	(10)	(13)
Maine	(74)	124	(43)	(21)	14	0	0
Maryland	7	68	(57)	(12)	(4)	0	2
Massachusetts	24	(26)	53	(46)	0	3	8
Michigan	(95)	(42)	103	66	(33)	(5)	(6)
Minnesota	324	(212)	(56)	(70)	3	9	(2)
Mississippi	25	(12)	(27)	(2)	12	(8)	(12)
Missouri	622	(330)	(276)	(3)	(16)	(46)	(49)
Montana	40	(49)	(12)	12	9	0	0
Nebraska	53	(38)	0	2	(4)	0	13
Nevada	(61)	88	(16)	1	(14)	1	(1)
New Hampshire	11	(35)	(28)	(6)	20	36	(2)
New Jersey	3	(7)	57	(1)	(8)	(43)	1
New Mexico	(33)	64	(24)	(2)	1	(7)	(1)
New York	(15)	18	(15)	(20)	23	11	2
North Carolina	96	(60)	(52)	(6)	8	(7)	(21)
North Dakota	(6)	6	1	0	0	0	1
Ohio	98	(24)	(19)	(6)	(41)	(17)	(9)
Oklahoma	261	(111)	(148)	0	(1)	0	1
Oregon	252	(153)	23	(34)	(32)	(54)	2
Pennsylvania	171	(146)	(54)	41	(22)	(5)	(15)
Rhode Island	3	(2)	(2)	0	(3)	1	(3)
South Carolina	13	106	(118)	(16)	12	(5)	(8)
South Dakota	8	(14)	9	3	(3)	0	3
Tennessee	20	(76)	67	(19)	(3)	0	(11)
Texas	474	(394)	(149)	(10)	(24)	(3)	(106)
Utah	18	63	(61)	(3)	15	(33)	(1)
Vermont	(2)	(9)	9	1	1	0	0
Virginia	84	(66)	(58)	5	9	9	(17)
Washington	(7)	3	17	(3)	(3)	0	7
West Virginia	(110)	(23)	96	(12)	20	0	(29)
Wisconsin	(48)	218	(119)	(54)	4	(4)	(3)
Wyoming	(142)	(181)	(29)	(1)	3	(4)	(354)
U.S. Total	2,686	(1,526)	(1,339)	(280)	(95)	(116)	(670)
Mean	52.67	(29.92)	(26.25)	(5.49)	(1.86)	(2.27)	(13.14)
Standard Deviation	149.18	111.64	73.47	22.62	24.70	17.61	52.15

Source: Compiled from FHWA Table HM-61, 1997.



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